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ABSTRACT

The progress of the Birmingham Parent-Child Development Center (PCDC) in meeting the requirements of the first phase of the national PCDC project is described in this final report. Funded in 1970 by the Office of Economic Opportunity, the Birmingham project, like two other PCDC projects, was aimed at developing a parent education model which would help low-income mothers enhance the development of competence in their infants and 3-year-old children. The PCDCs were designed to be developed in two phases involving, first, model development, refinement, evaluation and documentation, and, second, testing the replicability and generalizability of the models. The Birmingham PCDC program developed a model based on a view of the family in poverty as a maintenance system consisting of component parts forming a unit which generally sustains internal equilibrium, tends to resist change, and is boundary maintaining. This final report of the first phase of the Birmingham PCDC project (1) summarizes the project background, (2) describes the theory and rationale on which the model is based (including guides to changing systems and interactional conceptualizations of child development, mother-child interactions and of the family in poverty,, and (3) describes the Birmingham PCDC project activities in terms of four program needs: model-congruent goals, model-congruent practice, documentation materials, and process measures. Tables are included that indicate the sequence of the PCDC curriculum for mothers and for children. (Author/RH)

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BIRMINGHAM PARENT-CHILD DEVELOPMENT CENTER

FINAL REPORT

Grant No.
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ABSTRACT

The present report details the Birmingham Parent-Child Development Center's progress with respect to the requirements of Phase I of the Parent-Child Development Center Project.

Requirement 1. The first Phase I requirement set by the PCDC Project was for "The development of an experimental treatment model, consisting of a new theory-based synthesis of existing knowledge from relevant disciplines." This was accomplished by utilizing theory and research data from two general sources. First, systems theory and research was used to provide a wholistic frame of reference for viewing both human and structural components of the B-PCDC system. This systems orientation directs attention to the interrelationships among component parts. Second, selected theory and research data on the family and its members, their interrelationships and circumstances, were utilized, including theory and research in the following five areas:

(1) an interactional conceptualization of child development.

(2) mother-child interactions.

(3) an interactional conceptualization of adult growth and development.

(4) the family as an intimate group.

(5) poverty as a complex interactive network.

Requirement 2. The second Phase I requirement was for "Development of a program, including delineation of model-congruent goals and practices, documentation with written program and curriculum materials, and appropriate process measurement for quality control and implementation purposes." The B-PCDC has a fully operational program with goals and practices based on the theory and research detailed in the Model section of this document. Noteworthy aspects of this Program include the use of more advanced mothers to teach less advanced mothers, and a curriculum emphasizing adult as well as child development. Mothers enter the B-PCDC when their children are approximately three months old, and stay until the children reach 36 months of age. The amount of time the mother and child attend the Center varies from three half-days to five full days each week. The Center provides participants with transportation, food, health care, home management information, social services information, and classes leading to a high school equivalency certificate, in addition to a curriculum focusing on adult and child development from an interactional perspective. Documentation is provided by written manuals for staff members and participants. Process measurement is achieved through the use of an evaluation/feedback system geared to personal growth that is an integral part of day-to-day activities in the Center.

Requirement 3. The third Phase I requirement was for "Specification of goal-appropriate measurement criteria, and the selection, adaptation and/or development of measurement instruments to determine program effects on participants, with experimental designs rigorous enough to distinguish program effects from changes unrelated to the program." The evaluation design is longitudinal, with the children's social-emotional, cognitive and physical-motor development assessed at regular intervals. The mothers are also assessed at regular intervals, with emphasis on behavior in mother-child interaction settings, attitudes, and problem solving. Both locally-developed and nationally standardized assessment procedures are used, and comparisons of program participants with a randomly-assigned control group are made.

Requirement 4. The fourth Phase I requirement was for "Demonstration that low-income mothers can be helped to become powerful developmental agents for their own children, thereby preventing socio-economic-status-linked, environmentally-based, developmental lags." Results to date are summarized in this report, and they appear to meet this fourth requirement. Evidence that Program mothers become more assertive, more person-oriented, and more competent in handling day-to-day problems is presented. There is much evidence for positive changes in both the quantity and quality of mother-child interactions that have been linked to improved cognitive and social-emotional development of children by previous research.

There is also evidence that Program children are cognitively more advanced than Control children by the age of one year, and the superiority of the Program children endures after graduation from the Program, as evidenced by Bayley MDI and Stanford-Binet IQ. (This result is from follow-up evaluations one year after graduation; longer-term follow ups cannot yet be made.) Program children also evidence more advanced social-emotional development than Controls, beginning with indicants of stronger attachment to their mothers by 11 months of age. At more advanced ages, Program children showed evidence of more relaxed, appropriate interactions with strangers as well as with their mothers.

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I. BACKGROUND OF THE PARENT-CHILD DEVELOPMENT CENTER PROJECT

The 1960's was a time of major allocation of effort and funds for social innovation. The passage of the Economic Opportunity Act (EOA) and Elementary and Secondary Education Act (ESEA), taken together, provided large amounts of Federal funds for the creation of innovative service and action research programs for the disadvantaged. EOA provided funding for projects such as Head Start, Community Action Programs, and Vista, all directed at minimizing poverty and its effects. ESEA provided funding for basic research and for demonstration activities in the hope of improving education services in general across all disciplines at all levels. With the inclusion of many other independent efforts begun on a small scale, the "War on Poverty" was under way. There were at least three levels of sophistication of work in these efforts.

Level I: Romantic Assumptions, Weak Results

Studies and programs relevant to poverty flourished. The scale of the first efforts varied from massive action programs in which local authorities had very wide latitudes of choice with respect to target groups, to large-scale nationally-focused action programs, to small scale, highly

heterogeneous demonstration projects. These early efforts shared the romantic assumption that useful innovation would occur if only those most concerned were given the necessary resources, encouragement and freedom. Utilizing conventional wisdom, they would apply their firsthand insight into what was needed and their intuitive feel for how to go about the task. The resultant programs involved few real departures from traditional educational practices, for the most part, with modifications taking one or more of the following forms:

(1) The extension to low-income schools of a variety of the trappings of traditional "quality" education enjoyed by more affluent educational institutions--art projects, enriched science curricula, lower pupil-teacher ratios, remedial services, early childhood programs, and so on.

(2) Inclusion of some low-income paraprofessionals in the staffing, and some parent involvement in policy decisions.

(3) Beefing up of supportive services--school social work, school lunches, mental and physical health assessment and treatment, etc.

Head Start, the largest of these programs, was directed at preschool-aged children and involved a classroom experience lasting for as little as a summer or as long as several years. No systematic effort was made to involve parents as direct facilitators of their children's development, though they were involved in policy decisions and sometimes as paraprofessionals.

Early in 1968 a set of Parent-Child Centers (PCC) was established under the aegis of Head Start and the Community Action Program. The PCCs were partly the result of monies in the OEO program budget identified for experimental infant-mother interventions and partly a result of White House Task Force initiatives taken by early childhood researchers. Since

their establishment, most PCCs have remained very heterogeneous in their goals and program directions, being largely community-centered, service-oriented undertakings shaped by felt needs of local sponsors and user groups.

These first innovative efforts were conceived as reforms involving changes of obvious merit, not as experimental tests of formulations whose merits had first to be established. This "shotgun" approach was soon recognized as inefficient, the basic problem being no consistent method of assessment. When assessment was available, the programs, particularly Head Start, were found to be initially successful but with questionable long-term benefits. The scarcity of systematic models and clearly documented procedures made it difficult to accurately replicate successful programs or learn from the failures of unsuccessful ones.[40]

Level II: Controlling Dependent Variables

The idea of testing a variety of innovative treatments on a pilot scale before attempting to implement them on a large scale soon emerged, after federally funded evaluation efforts raised serious doubts about the innovativeness and effectiveness of the Title I and Head Start efforts. As a result, Follow Through (1967), Head Start Planned Variation (1969), and Performance Contracting (1970) were designed to test a group of variant but similar programs. An effort was made not only to gauge the gross impact of general type of educational innovation, but also to establish the differential effects, if any, of a selected set of treatment variants, ~~as implemented~~

at different sites. The results of this examination revealed few approaches combining a theoretical framework for program conceptualization with a specified theory-congruent practice and quality control measurements. Thus, while the dependent variables were carefully identified and controlled, the independent variables were neither controlled nor controllable, since the variant approaches had been pressed into service without careful development and specification.

Until the late 1960's there were very few efforts to develop comprehensive, replicable models for educational programs. In no case was the testing of a set of varied, carefully-developed models carried over to a controlled-experiment stage in which the effects of several models were determined and compared in a range of settings selected as deliberate variations of original model sites.

Level III: The PCDC Project

By the end of the 60's, it had become apparent that useful social innovations could be more rigorously formulated by extensive use of various social science theory and research to develop treatment models. This approach would enable a synthesization of more powerful treatments not ordinarily conceivable through conventional wisdoms or intuitions of practitioners and felt needs of users. In 1969 - 1970, the Parent Child Development Center Project, which utilized this more rigorous approach, was launched.

The PCDC Project, undertaken by the Office of Economic Opportunity (OEO) and later continued by the Office of Child Development (OCD), had dual objectives. The first objective

made the PCDC Project unique. From its inception, the PCDC Project was intended to demonstrate and test a general, three-phase strategy for creating and diffusing innovative social and educational programs at minimum cost, minimum risk and maximum benefit. The second objective was to formulate, develop and test different infant-mother intervention programs aimed at preventing the deleterious effects of growing up in poverty. The intent to benefit children from low-income families made the project rather typical of the times, but the focus on mothers as intervention agents was more unusual, though like that of the PCCs. Unlike the PCCs, the PCDC Project is as much a research and development project as it is a service delivery project.

OBJECTIVE I: A STRATEGY FOR PROGRAM DEVELOPMENT

The PCDC Project was charged with the task of initially developing replicable program models, explicitly based on basic research knowledge and theory, to be formulated, developed, tested and packaged (Phase I), then used for small scale replication (Phase II), and later diffused on a large scale (Phase III). Such a strategy is potentially applicable to the development of any educational or social program.

Phase I of this strategy requires:

(1) Development of an experimental treatment model, consisting of a new theory-based synthesis of existing knowledge from relevant disciplines.*

*The term, "model" refers to the set of ideas and assumptions, based on theory and empirical research, that provides guidelines and consistency for program content and procedures. In short, "model" refers to the theoretical framework within which the program operates.

(2) Development of a program, including delineation of model-congruent goals and practices, documentation with written program and curriculum materials, and appropriate process measurement for quality control and implementation purposes.**

(3) Specification of goal-appropriate measurement criteria, and the selection, adaptation and/or development of measurement instruments to determine program effects on participants, with experimental designs rigorous enough to distinguish program effects from changes unrelated to the program.

OBJECTIVE II: INTERVENTION WITH MOTHERS AND INFANTS

All of the PCDCs share the objective of helping low-income mothers learn to intervene more effectively in the lives of their children, thus preventing developmental lags. Central administrative direction was established to ensure that centers participating in the PCDC Project addressed themselves to the infant-parent interaction problem as a primary goal. Evaluation and documentation tasks were stressed, with financial support equal to that for provision of services.

This second objective of the PCDC Project -- helping low-income mothers intervene more effectively in the lives of their children -- leads to an additional requirement for all the original sites. Phase I of the PCDC strategy further requires:

(4) Demonstration that low-income mothers can be helped to become powerful developmental agents for their own children, thereby preventing socio-economic-status-linked, environmentally-based, developmental lags.

This fourth requirement became the general project goal.

**The term "program" refers to the specific content and procedures of a particular functioning center. The program is one of the possible operational definitions of the model, if it is based on an explicit model and is adequately detailed and described to allow others to understand its operation.

FIVE COMMON FEATURES

In the initial planning stage of the PCDC Project, a number of basic ideas and hypotheses were deduced from available research literature and theory. These basic ideas generated five common features which are now integral parts of each of the PCDC programs. The programs differ in their specific interpretations of these features, as well as in how these features are integrated.

Mother as Intervention Target. Evidence of the tremendous importance of the primary caregiver's role in fostering the development of the child was accumulating, e.g., the Coleman Report.[33] Therefore, the mother seemed the most logical participant/recipient of the intervention effort. It was recognized that attention must be paid to the mother as an individual (not just as a parent) because her personal circumstances and feelings directly affect her child.

Children Under Three Years Old. The decision to work with mothers with infants from birth to three years of age was based on three lines of reasoning. Heretofore, most programs had begun intervention at age four, but the literature provided convincing evidence that by this age performance differences were already beginning to emerge between poverty children and others. Second, the higher interest level of mothers who actually had a child to care for suggested enrollment of women with young children rather than women yet to become parents. Third, in the decade from 1950-1960, there was a doubling and redoubling of research on infant development processes which began to reveal the importance of the early parent-infant

relationship. The period between birth and 36 months of age was chosen as the general target period.

Collaborative Input by Participants and Professionals. The decision to work primarily with and through mothers, however, required an additional commitment to seek and incorporate participant input. Relatively little was known about adult education of low-income people except in the area of teaching basic skills, such as reading and arithmetic. It was recognized that low-income mothers had been surviving and raising children in high-stress situations long before educators began to get involved, and could probably teach the educators as well as learn from them. However, combined data and information from the fields of psychology, education, and sociology did suggest specific areas in which mothers could become better facilitators of development and also provided a few methods for helping them. The resulting PCDC programs, then, consisted of the ideas, techniques, and approaches of researchers and professional practitioners combined with substantial input from the mothers themselves.

Multi-faceted Programs. The early planners of the PCDC Project felt that even if a mother learns to be a better facilitator of her child's development, she is often frustrated in her attempt to utilize this knowledge by the multi-faceted problems of life in a low-income environment. Often there are a number of sources of aid, but she does not know of them, or does not know how to go about making use of them. Therefore, particular attention was paid to the various situations and resources the mother had to learn to manage in order to

handle crises more effectively and still have the time necessary for increasing her effectiveness as a parent. Hence, each of the programs provides information and experiences to help mothers function effectively in handling and utilizing the multiple dimensions of their home environments. The programs provide health education, nutrition information, home management concepts and skills, basic educational skills, social activities, and supportive social and health services.

Sufficient Duration of Participation in Program. Since the mothers were expected to continue to use what they had learned after completing the program, it was reasoned that they should participate in the program for at least two years. The minimum two-year period also permitted gradual adaptation to the programs. It would also make it possible to incorporate an individualized approach that recognizes the diversity in the mothers' needs and skills.

* * *

The PCDC Project provides general guidelines and the minimal initial framework to be used by each center participating in the Project. The remainder of the present report details the achievements of the Birmingham Parent-Child Development Center (B-PCDC) during Phase I of the Project.

II. THE BIRMINGHAM PARENT-CHILD DEVELOPMENT CENTER

The Birmingham Center began operation in the fall of 1968 as a Parent-Child Center (PCC). The Center was a bi-racial program functioning at a time and in a community of tremendous racial conflict. The durability of the program under such circumstances appears to have been due to the participants' having major responsibility for operating and maintaining it. As participants gained experience in the program, they were given increasing responsibility for teaching other mothers and children. The overarching goal of the program was to strengthen the family life of "disadvantaged families," helping them to be self-sustaining family units. After a year of operation, very limited evaluation suggested major PCC program effects on the development of the children. The Birmingham PCC had a functional, effective program of parent education.

The bi-racial participation and the degree of responsibility given to parents was unusual among PCC efforts across the country. A functioning, effective program with such unusual characteristics made it a desirable starting point for one of the models required by the PCDC Project. What was needed in addition to the program (practice) was: (1) explication of the implicit sets of principles (theory) guiding the program, i.e., a model; (2) documentation of the model-congruent practices for operation and quality control; and (3) creation of an evaluation design and staff. In 1969, a

planning grant was awarded to develop a design for converting the PCC to a PCDC, and in 1970 the Birmingham PCDC began operation under the new plans.

THE MODEL

The operation of the original Birmingham PCC was based on the idea that the family is a potent force in the development of children. It was reasoned that, in order to have a lasting and significant impact on the child, changes in the child's family were required. This premise became a cornerstone of the B-PCDC, which has a unique mother-teach-mother feature that encourages the psychological growth of the mothers and other family members as the mothers develop from new participants to experienced models for other mothers in the program. The B-PCDC Model incorporates theory and research data from two general sources. The Model utilizes systems theory and research* (which provides a basis for constant attention to the unity formed by interrelationships among component parts) to provide a wholistic frame of reference for viewing both human behavior and program aspects such as curriculum components, organizational structure, and written materials. The Model also utilizes relatively discrete caches of theory and research data on the members of the family, their interrelationships, and circumstances (poverty conditions) to provide an individualistic frame of reference for further clarification of ways of working with individual participants.

*An excellent presentation of various applications of systems research and theory is presented in Buckley, W. (Ed.), Modern Systems Research for the Behavioral Scientist, Chicago, Aldine, 1968.

A Systems Orientation

The central notion in a systems orientation is that action of any component is influenced by its relationship to other components in a complex network of mutual influence--whatever happens to one element in the system in some way affects other elements. This orientation directs attention to the environment within which each component operates. The systems orientation applies to both human and inanimate components of the B-PCDC.

THE FAMILY: A SYSTEM

A prototype of an intimate human system is the family system--one which is of relevance to the B-PCDC both because of its focus on families and because of the characteristics the system formed by staff and participants has in common with a family system.

Within a family system, the accepted behaviors for each member are generally understood by all members--an implicit mutual agreement that welds the family into a unit. This idea is perhaps best exemplified when a guest violates a family rule. One of the B-PCDC staff members recently had a college student from Peru spend the summer with his family. The young woman had been a constant playmate to the children for about three weeks when the following incident took place.

> One afternoon the student, home alone with the three children, began to prepare an egg dish for a snack. She was first confronted by the 13 year-old, who casually suggested that the snack might taste better if she added black pepper, and that it would be easer to prepare if she used the omelet skillet rather than the sauce pan. Shortly afterward, the 9-year-old pointedly complained

that she was cooking the egg the wrong way, at the wrong time of day, in the wrong pan. Finally, the 7-year-old blatantly attacked her because that was "not really an egg," and his mother was "going to get" her. The student tried to explain that the dish was one from her native country, but stopped trying as the different children confronted her. Upon completing preparation of the dish, she encouraged the children to taste it. The oldest took only a bite and indicated that he wasn't hungry, but it tasted "O.K." The 9-year-old took a look, sniffed, and said she did not like it. The 7-year-old just looked at the student and said, "No way!" The student quietly ate her snack. The rest of the day her interaction with the children and hosts was minimal.

That night the wife expressed her concern about the student's unusually withdrawn behavior to her husband, but they decided to wait for the events of the next day before doing anything about it.

The student's quietness continued. During the day, the wife occasionally probed directly and indirectly, trying to discover the reason for the student's behavior. The student said she just felt "lazy." The wife's private reaction was that the behavior and comments did not make sense. When her husband returned from work, the two of them decided to take action.

Before dinner, they requested a private conference with the student. The husband and wife united; they made an explicit statement of intent to understand what was going on. The conference was to be formal. It was at this time that the student related the "incident of the egg" and her interpretation of the children's behavior, especially that of the younger children, as showing a lack of respect and affection for her. The student also expressed her discomfort with the parents' collaboration in accepting such disrespectful behavior in their children and failing to punish them for it. Having determined that there really was something wrong, and that it involved the children, the parents decided to involve the whole family in a conference after dinner.

The after-dinner conference was convened in the same more formal way. The children's behavior of the previous day was now making a full circle of effect back to them. The husband summarized the previous meeting for the children and set the task, for the whole group, of finding ways of making the summer more pleasant for everyone. The student pointed out that the children's reactions to her attempt to treat them to a new dish hurt her feelings and made her feel the parents were spoiling them. She also felt the parents were amiss in not using economical, nutritious eggs more in their menus, thus placing herself in the role of outside critic. Each of the children explained what they could about the egg incident; they criticized the student for being too sensitive, defended

one another's behavior, and pulled closer together as a subgroup. The parents explained that they expected their children to express their opinions, regarding this as a sign of developing independence rather than disrespect; that they expected the older child to be more accepting of different behavior than the younger children because of developmental differences, not differences in "niceness" or affection; that they viewed discussion of difficulties as more effective than punishment in helping children develop; and that they saw the family's use of eggs solely as a breakfast dish as family custom, not lack of concern for good nutrition and budgeting. The husband and wife became a mutually supportive unit explaining and defending their own behavior and that of the children. At this point, the group was clearly structured into three subgroups. The student was no longer in the role of children's playmate; her role was that of adult critic of both generations.

The meeting continued. Negotiations were undertaken so that each member of each group got every other individual to agree to a specific behavior that would be acceptable to all. For example, the student requested that she and the 9-year-old daughter spend some time alone together so she could teach the daughter some of the Spanish songs she had learned as a child. The daughter readily agreed. These negotiations were directed by the husband--in a familiar professional role. The family conference gradually became more affectionate and casual as the explicit expectations and new relations became part of the group's behavior pattern. In this situation the husband was the dominant figure, with the wife taking a supporting role. The student assumed the role of an older, wiser sister (defending and supporting her temporary siblings) with a special relationship with the daughter. The two sons accepted the fact that their female peer subgroup had become more powerful. (This was best expressed by the 7-year-old, who announced that "The family is now even with three boys and three girls.")

Following the conference, the group played Scrabble with the daughter and the student teaming, the two boys teaming, and the wife and husband teaming. The student's "laziness" had disappeared.

BASIC PRINCIPLES

This example is useful in illustrating several significant points about families, and about systems in general.

(1) The family (or any system) is organized to form a unity which resists change and maintains its boundaries*,

*Boundaries are defined as the limits beyond which deviations will not be tolerated.

even with the introduction of new information. For example, the children opposed the student's attempt to break implicit family rules about how, when, and in what way eggs are prepared. A good part of the conference was spent in the family members' defending and justifying one another's behavior to the student. The family united to defend itself against challenges to its rules about self-expression in children and about different behavioral expectations for different members. Further, the family system was extended to incorporate the student as a member expected and expecting to operate under the same family rules. The consequence of the conference was to clarify the student's position in the family with respect to the existing rules rather than to change the rules.

(2) The relationships among members of a family are at least as important as the individual characteristics of the members. In the above example, the initial signal of a problem was the change in the student's interactions with the family members. The student became more verbal and informative when the husband and wife united in a formal way to find out what was wrong. Everyone's difficulties decreased as the structure of the family and the relationships of the members were made explicit and extended to include the student. Only in terms of developmental differences did individual characteristics assume a major role in explaining behavior, and then such individual differences were used to clarify different relationships.

(3) A family or other system is made up of a number of functional subgroups. The interactions of the children with the student, the hosts with the student and, then, the whole family with the student, revealed some of the significant sub-

groupings in this family. The family conference was initially organized with the whole family unified and the student by herself; then the organization changed to the student, the children, and the hosts; and finally, the organization was two female "children" (student and daughter), two male children. and the hosts.

(4) What happens to one member or subgroup of a system generally has a spreading, circling effect to all other members, eventually coming back to the initial member affected. And, the consequences of input into a family is mediated by the relationships among the family members. The preparation of the new egg dish first affected the children, then the student, then the hosts, and then the children again. Rather than simply expanding the children's culinary experience, the preparation of the egg dish resulted in clarifying the family roles, and increasing the incorporation of the student in these roles.

These points are significant because they are derived from the view of human behavior that underlies the B-PCDC. The family is the primary socializing and controlling entity in children's development. The family, as used here, is extended to include significant and intimate friendship and kinship groups along with nuclear family unit. The way in which the family facilitates or debilitates a child's development is to be found primarily in the relationships of the family members rather than in characteristics of individual members. Work with more than one member of a family means that one is working with a subgroup of the family rather than with individual, independent family members. And, influence on an individual member of a subgroup of a family is mediated by other family members.

It is further reasoned that children learn the limited ways of solving problems and interacting with people that exist in the family unit -- as adults, children, will tend to solve problems and interact with people in ways shaped by their family experiences.

MEANING OF CHANGE

The purpose of any intervention effort is to produce some type of change in the participants. From a systems orientation, the basic unit of change is the relationship of two or more people. This contrasts with most other approaches, which consider the basic unit to be the individual. In most other approaches, efforts are focused on improving such individual factors as self-concept, knowledge, motivation, and so forth. From a systems orientation, efforts are focused on improving such factors as mutually-supportive problem solving of a husband and wife, degree of direct communication between mother and child, and so forth. It is necessary to get just a bit more technical to make this very important point clear.

Brief, Technical Digression

A system is defined as an organization of component parts to form a unit which generally sustains internal equilibrium, tends to resist change, and is boundary maintaining. To put it a little differently, a system is a bounded, self-maintaining entity which, under normal conditions, does not undergo fundamental change. The first point noted about the above example clearly indicates that a family meets the definition of a system.

At the same time that a system is described as an entity tending toward self-maintenance, the literature describes two

change systems e.g.[55]. A system is typed according to its effects on a selected reference component of the system. Examples of maintenance systems are water-consumption-regulatory mechanisms in the human body with reference to amount of body fluids, and value indoctrination practices in rigid families with reference to adult values. Examples of growth/change systems are growth-regulating mechanisms in children with reference to increasing physical stature, and achievement-encouragement practices in upwardly mobile families with reference to new knowledge and skills acquired by children in school. Furthermore, the typing of a given system can change depending on the particular component selected for observation. For example, a successful adult education program which utilizes a rigid set of materials and procedures would be typed as a maintenance system with reference to the program, but it would be typed as a growth/change system with reference to the increasing number of better educated participants. In our detailed example, the family was functioning as a growth/change system with reference to the student's understanding of family rules, but as a maintenance system with reference to the existing family rules.

Change in Poverty Families

This somewhat technical digression was necessary. Poverty families are viewed as maintenance systems with reference to the members' behavior toward the larger community and its social institutions. That is, poverty families tend to maintain their members' existing behaviors (some of which are maladaptive)

toward the larger community and tend to instill the same behavior in their developing children. The task of an intervention program thus becomes one of providing the opportunity for the poverty family system to change in ways beneficial to its members. It is important to recognize that we are not talking about simply improving the current functioning of the system, i.e., working to help a family to become a more efficient poverty family. We are talking about fundamental changes in the relationships of the family members so that they become growth/change systems with reference to their members' adaptive behaviors toward the culture within which they live.

In spite of this explicit intent to change family systems, a host of factors (moral, social and cultural) limit the types of change desired. Thus, change should not negate the family's self-determination of behavior and, most importantly, should not destroy the nuclear family unit. Desirable changes include helping the family become a more enjoyable, more effective problem-solving group.

GUIDES TO CHANGING SYSTEMS

This brings us to a key issue: how to provide the opportunity for nondestructive, desirable change in a system such as a family. Several guides for such change can be derived from theory, research data, and practice in the fields of sociology, small group psychology and family therapy, as well as from systems work.

Guide 1. Reduce Stress to a Moderate Level

The level of stress (deviation from equilibrium) in a

system affects whether a given input will change the system or simply be assimilated by the system[48] . For example, consider the consequences of adding steam to an operating steam engine. If the system is well within its boundary conditions (minimum deviation from equilibrium), the input will be assimilated easily. However, if the system is at its maximum boundary conditions, the input may be quite destructive. Analogously, a family that is operating well within its boundary conditions will be little affected by most normal additions of knowledge or experience[48] . This was true in the example with the student: the family rules were not changed but extended to include the student. However, a family that is operating at maximum stress could be severely disrupted by the slightest additional input[48] .

The safest and most effective way of helping a family change is to gradually increase inputs at a time when the family is experiencing only moderate stress. For families experiencing high levels of stress (and this includes most poverty families), it is necessary to decrease the stress, no matter what its source, before introducing any input that might add to it. A gradual increase of input allows the family system to accommodate constructively. On the other hand, a system that is experiencing very little stress resists change vigorously.

Implications for Program

(1) Decrease the stress experienced by each participating family to a point at which change can take place.

(2) Gradually increase input, providing opportunities for the participants to change.

Guide 2: Have Change Agents be Members of the System

In order to produce nondestructive change in a system, the agent for change should be an integral part of the system. External sources of input generally are not sensitive to the level of stress or nature of subgroup relationships within a system. A suggestion that may seem simple and innocuous outsider may be intolerable to the system concerned. For example, a simple suggestion to alter the feeding pattern of her child made to a mother who recently has been confronted with her uncritical acceptance of every new suggestion would probably meet a great deal of resistance. Or, on the other hand, what may appear to an outsider to be a major, threatening change (and therefore to be avoided) might be accepted readily by a family. For example, a suggestion that a mother and her husband seek professional counseling may come at an opportune time, e.g., after the husband and wife reached the same conclusion but were uncertain about whom to contact. Without being a member of the system, one would not know the family rules, the level of stress, or the direction of ongoing events, and therefore would be unlikely to be an effective change agent. Optimally, the agents for change should themselves be integral parts of the system to be changed. Since it is hardly feasible for intervention agents associated with projects like the PCDC to become integral parts of participating families, an alternative is for subsystems from families (mother and infant) to become integral parts of the intervention program. Such a program should provide for the prompt and relatively easy integration of new participants into an ongoing system composed of staff and experienced program participants. If the program

has impact upon mother and infant, they, in turn, will introduce new input into their own family system.

One way to facilitate the quick incorporation of new members into existing systems is by having obvious similarities between new members and experienced participants and staff with which new participants can easily identify. For example, when a teen-aged black mother raising her child single-handedly (or a 40-year-old white mother with grown children) sees others who share her situation functioning as integral members of a heterogeneous system, she is likely to feel more comfortable. By forming relationships with system members with whom she can identify, she is drawn into the larger system of which they are members.

To assure that the intervention program functions as a growth/change system with regard to new members, a heterogeneous group of participants--both mothers and staff--is desirable. Changes occur most readily when people become involved with others whose "rules," behavior, and attitudes are only slightly discrepant from their own, especially when new relationships are of a type sufficiently unfamiliar that the participants lack strong, long-standing "rules" of their own for handling them. While all participants can be expected to have strong and deeply entrenched patterns of relating to people of other ages* and sexes, few have had more than distant, stereotypical relationships with members of other races. Therefore a system with members of different races is a particularly desirable setting in which to learn new ways of relating to others.

* For example, the Peruvian student expected children to treat her with "respect" and not to question her way of doing things.

Another way to facilitate the integration of participants into a system is to provide them with a choice of a wide range of types of interactions. A program should be structured to allow opportunities for casual social interactions, more formal didactic interactions, organized group projects, and so on. Identical participation should not be required of all program participants. Within the limitations imposed by the research and development nature of the Project, the ideas and behaviors of all participants and staff should be given equal consideration. These conditions allow participants to identify others whose attitudes and behavior patterns are initially more compatible with their own. This facilitates the formation of subgroups, the first step in the transformation of new mothers to fully integrated system members.

Implications for Program.

(3) Select groups of participants and staff with easily identified similarities (such as race) that facilitate development of subgroups within the program, while maintaining sufficient heterogeneity to facilitate change.

(4) Provide for choice from a range of interaction opportunities for both staff and participants.

Guide 3: Focus on Current Conditions and Relationships

Current conditions are more important in producing change in a system than is the history of the system. For example, a previous near disaster may have weakened the walls of a steam engine. Understanding the past disaster in historical terms is trivial compared to determining the new boundary conditions of the engine. Knowledge of the new boundary conditions is useful in deciding whether to lower the limits

of safe operation or to stop operation until the wall can be strengthened.

Analogously, mothers who were abused as children often exhibit abusive behavior toward their own children. It is more useful for the mother and the staff person working with her to focus on the conditions existing at the time of her abusive behavior, than it is for them to explore her unpleasant childhood in great detail. Knowing current situations that tend to induce the mother's abusive behavior can lead either to preventing the occurrence of these situations or to helping the mother learn new ways of coping in these situations. In the example of the family with the foreign student, very little time was spent in discussing the historical experiences of the participants. Most of the time and effort were spent determining current conditions and relationships and deciding on ways to change them.

Implications for Program

(5) Most of the activities of a program should relate to clarifying and changing current relationships and situations.

Guide 4: Build on Positive Aspects of Relationships

Nondestructive change in a system is best achieved by building on the positive aspects of existing relationships rather than focusing solely on the negative consequences (for example, angry feelings) of these same relationships. For example, from a positive aspect approach, the steam engine with the weakened wall would be described as having a boiler with an intact wall which might be strengthened--a constructive change is indicated. On the other hand, a negative consequence

approach would focus on the decreased pressure capacity of the engine and result in rejection of its further use or in acceptance of the new limitations as irrevocable and unchanging. In the example of the college student staying with the family, possible feelings of anger in the children, rejection in the student, or frustration in the hosts were not discussed, and the problem was solved by building on the existing relationships.

Virtually any existing relationship between two or more people has some positive aspect: communication occurs, information is shared, consequences result. These are important and positive aspects of relationships in a human system. By identifying the obvious, positive aspects of relationships, individuals can support and encourage each other in bringing about mutually desired change in these relationships. It is all too easy to overlook such positive aspects when a relationship results in negative consequences such as explosive statements of hate, redfaced suppression of anger, or blank stares of confusion. These consequences tend to command immediate concern, directing attention to themselves as the basis for further action or inaction. Often there is failure to recognize that these are consequences, not "causes," of what must be a significant relationship among the individuals involved. Energy is then expended in trying to control the consequences while nothing is done to impove the relationship itself. These same consequences probably will recur if the relationship remains unchanged, thus setting up an energy-consuming cycle of negative consequence, control, negative consequence, control, etc. It would be more productive to work to improve the relationship.

A positive approach that builds on the existing strengths of a group is more desirable than an approach that focuses entirely on doing away with the hostilities or conflicts that result from relationships. This does not mean unpleasant emotions or conflicts should be ignored, but rather they should be used to clarify and understand positive aspects of relationships. Furthermore, relationships are easier for group members to identify, describe and agree upon than are emotions. Typically, a troubled relationship induces a complex and confusing interplay of both pleasant and unpleasant emotions that are almost impossible for the group to differentiate.

Implications for Program

(6) Identify and build on the strengths or positive aspects of participants' relationships, even if the primary consequences of these relationships are initially undesirable.

(7) Deal with conflicts, hostilities and other unpleasant emotional situations by clarifying the relationships of the individuals involved rather than the complex of emotions.

Guide 5: Allow Results to Influence Methods

Efforts to change a system should be guided more by results or outcome than by particular rules or methods. A specific difficulty in a system could be a result of one or more of many possible problem relationships; even though the difficulty may appear identical to a previous difficulty, its cause is likely to be different, and its cure will differ with its cause. For example, one day a group of children may be whiney and difficult because their naptime on the previous day was disrupted by a fire drill; another day similar whiney, difficult behavior may be their response to a disturbed relationship between their caretakers.

A general procedure for changing a system is: make the best guess about the cause of the difficulty, act to correct the hypothesized problem, and observe the consequences to determine if desired change has occurred. If not, try different methods, and/or make a different guess and proceed from there. Welding extra layers of sheet metal to the weakened steam engine wall is a possible method of strengthening the wall. However, one would not assume that such welding affected the system in the desired way until the system was actually functioning at new pressure levels. From a different perspective, in the example of the college student and the family, the most important event was the change in the student's interaction with other family members rather than the occurrence of the problem solving conferences.

Implications for Program

(8) The program should have flexible guides that are goal-oriented as opposed to rigid, absolute rules (except where legally required).

INTEGRATIVE FUNCTION OF SYSTEMS APPROACH

So far, the systems orientation of the B-PCDC has been presented with special reference to human systems. This same systems orientation is extended to such aspects of the B-PCDC as curriculum components, organizational structure, and written materials. It provides a consistency of approach that ties together such varied program components as home economics, elective special interest (choice) classes, and the child curriculum. Written curriculum guides are seen as forming a system: special attention has been given to the congruence of materials for different facets of the program, and to the

impact of what is learned in one area on other areas. The Birmingham Model is itself considered to be a system formed by interrelationships of discrete caches of theory and research data.

However, the presentation of the systems orientation focuses on relationships in general. This systems orientation has generated a number of implications for the development of the program. Additional implications are generated by reviewing and analyzing selected theory and data relevant to special components and relationships in the B-PCDC, and these are presented in the following section.

Component Theory and Research

The B-PCDC utilizes a systems approach not only to understand intimate groups but also to guide the selectionof and to integrate theory and empirical research data relevant to five component areas: child development, mother-child interactions, adult growth and development, family and other group interactions, and the functioning of low income individuals in the community. In this section we will briefly review some of the specific theories and research findings that have gone into the formulation of the Birmingham Model.

CHILD DEVELOPMENT: AN INTERACTIONAL CONCEPTUALIZATION

The systems orientation of the B-PCDC directs attention to child development research and theory incorporating an interactional view of development. Piaget[59], for example, saw a child's behavior, at any given point in time, as determined by an interaction between biological characteristics

and experience. The infant begins life with a small collection of biologically-determined ways of interacting with the world and a "program" for certain maturational changes. A few of these changes seem to occur under all but grossly abnormal conditions, but more typically they are also dependent on the child's ongoing experiences.

Cognitive Development

An infant's sucking behavior provides an example of the interaction between biological characteristics and experience. In the beginning, infants regard and respond to almost everything as a thing-to-suck, trying to incorporate new objects--mother's shoulder, father's finger, toys, blankets, spoonfuls of oatmeal, the dog--into this biologically given complex of behaviors. Obviously, only a few objects really "work" as things-to-suck, and experience with things that "work" and "don't work," combined with maturational changes in physical capabilities, lead to changes in the set of behaviors that the infant gradually organizes in terms of sucking.

Such a set of behaviors is assumed to be integrated into what is referred to as a cognitive structure. The child first tries to fit new experiences or objects into existing cognitive structures, as when the infant tries to suck on mother's shoulder. Experiences that do not quite fit existing structures cause these structures to be modified (the breast-fed baby gradually learns that shoulders are not objects-to-suck, and later may learn to accommodate the sucking behaviors that fit the characteristics of the breast to the slightly different demands of getting juice from a bottle). On the other hand,

information that is totally irrelevant to existing cognitive structures will not be taken in by the child. In this way, existing cognitive structures selectively guide organization of bits of information from the environment. With maturation and experience, the existing structures change, resulting in new ways of selecting, processing, and organizing information: a new stage of development is achieved. The child is viewed as interacting with and actively organizing the environment rather than only passively accumulating information.

Social-emotional Development

The B-PCDC uses Piagetian thinking as a starting point and extends the interactional conceptualization that Piaget applied to cognitive development to social-emotional development as well. Both cognitively stimulating and social-emotionally stimulating experiences are seen as necessary for development.

Environmental Invariants

The PCDC extends the Piagetian notion of environmental invariants--features that remain constant through various changes and transformations--to include interpersonal experiences. An example of a traditional Piagetian invariant is the weight of an object, which ordinarily does not change perceptibly from day to day, or from one room to another. A generally consistent daily sequence of events is an invariant that provides a foundation for cognitive structures relevant to time concepts and cause-effect relationships. Applying this notion to the social-emotional realm, invariants become the enduring patterns and consistencies that characterize a given relationship, the typical types of interactions that occur

over and over again: the transactions. Social-emotional invariants are obviously somewhat more fluid than physical ones, but their constancy renders them the most important influences upon the child's social-emotional development, just as Piaget's environmental invariants provide a foundation for the development of cognitive structures. Such invariants of experience, through incorporation into structures across stages, provide for consistencies in development.

Implications for Program

This interactional conceptualization of the development of children suggests the following guidelines for a growth-facilitating environment for children:

(1) The environment should allow the child to function as actor/initiator as well as recipient/follower.

(2) The program must adapt to the individual development levels of participating children, recognizing that each child represents a unique combination of maturational "program" and experience.

(3) The environment must be cognitively and social-emotionally stimulating.

(4) The occurrence of invariants (with desirable characteristics) should be maximized.

MOTHER-CHILD INTERACTIONS

Literature and research relevant to the influence of mother-child interactions on the child's cognitive and social-emotional development provide a solid foundation for working with the mother as a means of affecting child development, and for focusing especially on the mother-child interaction, an interrelationship typically ignored by earlier intervention programs. This body of research also suggests some practical expectations for such an intervention program.

Influence on Cognitive Development

By 1969, the child development literature contained convincing evidence that the mother's interaction with her child has major effects on the child's cognitive development. Researchers found differences in children related to the quantity and quality of mother-child interactions in such areas as language[12,13,18,19,21,29], thinking style[51,53], and general competence[15,16,25,45,70]. In a series of publications on relationships among social structure, language and behavior, Bernstein[19] suggested that social class differences in children's cognitive functioning result from social-class-linked differences in the orientation of parent-child relationships and modes of communication. Bernstein distinguished between two types of families: (1) those using "normative control," in which appeals are made to authority or stereotyped role expectations, for example, "Do it because I said so," "It's a rule," or "You're old enough to know better than that," and (2) those using "person-oriented control," in which attention is called to how one's action will make other people feel or to the consequences of action apart from rules or feelings. Use of normative control techniques was found by Hess and Shipman[47] to be negatively related to the development of verbal behavior, performance on cognitive tasks, and reading readiness.

A convincing body of research findings provides evidence that type of maternal language and teaching style are related to a number of aspects of child competence. For example, Bee, Van Egeren, Streissguth, Nyman, and Leskie[16], in a study of socio-economic status differences in maternal behavior, found:

> evidence of an impoverished language environment and ineffectual teaching strategies experienced by the lower-class child. Such a child may learn a great deal about what not to do, . . . but he may not be well equipped with the language tools or learning sets required for a systematic approach to the analysis of problems. He has not . . . been encouraged to learn general techniques of problem solving . . . If the mother's role as a teacher is as important for the child's cognitive functioning as it would appear to be, then it is not surprising that there are large social class differences in the measured cognitive functioning of children, and in their ultimate school performance. (p. 733-4)

A study by Wiegerink[70] found that maternal teaching style--general information giving, positive feedback, and verbal questioning--shared more common variance with children's IQ than did maternal socio-economic status, personality, or language Jones[50] and Bing[22] found that children with normal measured cognitive development but low verbal abilities received less maternal attention, especially stimulating verbal exchange, than did normal IQ, normal verbal ability children. Golden, Bridger, and Montare[38] found no socio-economic status differences on <u>verbal</u> tasks. They attributed these differences to the greater use of labelling by the middle class as compared to lower class mothers and discussed the importance of labels in facilitating learning.

Recent research and reviews have continued to corroborate and refine these earlier findings[24,67,68]. The importance of maternal involvement with the child for language development was pointed out by Wulbert, Inglis, Kriegsman, and Miller[71]. In reviewing a number of studies identifying low socio-economic status as a correlate of language delay in children, they found that maternal involvement with the child accounted for the largest differences between language-delayed and normal children.

They also found that the mother's emotional and verbal responsiveness and her avoidance of restriction and punishment also differentiated the two groups of children.

This literature suggests some of the specific areas and directions in which mothers' behavior might change to facilitate the cognitive development of their children.

Influence on Social-Emotional Development

There is equally persuasive evidence for the importance of mother-child interactions for the child's social-emotional development. In a review of early work, Ainsworth[2] concluded that insufficient interaction with a mother figure (maternal deprivation) debilitated both social-emotional and cognitive development, with the most damage evident for social-emotional development. Data from both laboratory[67] studies and free field studies in different cultures[3,4,5,63,73] supported the significant relationship between maternal behavior during infancy and the child's later social-emotional development. The important concept of attachment evolved from this early work.

Attachment

Attachment is a strong emotional bond that forms between the young child and another person (usually the mother), binding them together and enduring over time. Attachment assumes major importance because of the hypothesized and demonstrated links with such child behaviors as exploration[7], cooperativeness[8], and interaction with others[9]. The quality of the attachment relationship between mother and child is seen as a major determinant of both the future socialization and the cognitive development of the child[6,7,23].

Although attachment occurs in virtually all children [6,7], the quality of the attachment relationship is highly dependent on characteristics of parent-child interactions [6,23]. Certain kinds of behaviors by the attachment figure (typically the mother) toward the infant in the first year of life are associated with the quality of attachment--amount of direct face-to-face interactions, quality of responsiveness to the infant's signals, affectionate physical contact, sensitivity to the child's needs and intentions, and cooperation with the infant's activities [3,5]. The process of attachment appears generally to begin clearly at about six months of age, to peak at about 14 months of age, and then continue throughout childhood.

The concept of attachment and the related research indicate the need for frequent, positive interactions between mother and child. However, there is another developmental phenomenon, complementary to attachment, which suggests a need for "distance" rather than closeness.

Detachment

Detachment is the tendency to explore and interact with the environment at some physical and psychological distance from the primary attachment figure while using the attachment figure as a secure base [62]. The child initiates the development of detachment; with increasing mobility, he/she moves farther away from the mother for increasing periods of time. It is very important to note that detachment, as used in the B-PCDC Model, refers to the emergence of a positive, constructive independence in the mother-child relationship; it is not used in the psychoanalytic sense of a passive, defensive withdrawal by the child

or abandonment by the mother. That is, detachment refers to a positive, essential aspect of healthy development of children and parents.

Relationship Between Attachment and Detachment

Detachment is complementary to attachment. Attachment can only be fully appreciated when it is viewed as coupled with detachment--moving away from the mother to explore, to manipulate, and to play with peers. Hamburg[42] suggests that for the system of two such processes to work effectively, "...The mothers should be motivated to protect the young; and the young should be motivated to seek the protection. Moreover, the young should be motivated to explore the environment and to learn how to take its salient features into account." This creates a difficult question of balance between the two processes: how much should the mother encourage the child to seek her protection, and how much should she encourage the child to explore the environment? More specifically for the B-PCDC Model, when and how should separation between mothers and infants be introduced?

Solutions of this apparent dilemma are suggested by several pieces of data. It has been found[5] that infants with better quality attachment tend to separate more easily. Providing participants with the opportunity and the encouragement to interact with their infants serves to improve the quality of attachment and also improve the quality of detachment. It has been found that attachment behavior is increased and detachment behavior is decreased in unfamiliar settings[61]. This finding suggests that, to facilitate detachment, both the mother and the child should be familiar with the settings in which separation is

encouraged. Attachment occurs not only between the infant and the primary caregiver, but also between the infant and other caregiving adults[23,64]. Attachment between the child and other adults (referred to as secondary attachment) can be used to provide support for the child while the primary attachment figure encourages detachment. These are three ways in which both attachment and detachment can be facilitated with minimal undesirable effects.

Child's Effect on Mother

Many of the studies linking mother behaviors to child behaviors during and after infancy[27,64,72] have been correlative, but there was often an implicit assumption that it was the mother's behavior that prompted a certain child behavior. Subsequent research had indicated that there are many child behaviors that precipitate certain mother behaviors. For example, behavior of the mother may be affected by static variables such as sex and age of the child as well as by momentary conditions such as the child's state (the sleep-wakefulness continuum), temperament, and the specific actions directed at the mother[57,66]. Not only does the mother "socialize" the infant, but also the infant "socializes" the mother. (Staff working with mothers should accept the fact that the child has a great deal of control over the mother's behavior). As a consequence, mothers should not be taught to function as "teachers," focusing mainly on conveying skills and information, but rather they should be expected to function as more effective parents, providing experiences in a warm and emotionally supportive way in the context of an ongoing, mutually adaptive

mother-child relationship. Furthermore, differences in the interactions of individual mother-child pairs should be expected. Failure to make these distinctions may have been one of the reasons for poor attendance reported in many previous parent education programs [17, 36, 43].

Implications for Program

The body of research and theory in the area of mother-child interactions on which we have chosen to focus has the following implications for an intervention program:

(5) The mother is potentially the most powerful intervention agent.

(6) Mothers should be taught ways to stimulate both cognitive and social-emotional growth.

(7) The program should support the mutual adaptations of mothers and children, not just changes in the mothers.

(8) Expectations for changes should be as parents, not as "teachers."

ADULT GROWTH AND DEVELOPMENT: AN INTERACTIONAL CONCEPTUALIZATION

The approach to adult development that is consistent with the B-PCDC's systems orientation is one that views change not as a passive response to environmental changes (being "taught" or being given more money) nor as a process that can take place in the individual in defiance of the physical and social environment. Rather, growth takes place, in ways characteristic of the human creature, in a context of rich interactions with the environment. People actively organize and interact with their environment, influencing it while being influenced by it.

Adult Development is an Active Process

Piaget's notion of "cognitive structures"--the mental

organization of sets of behaviors around particular categories of experience--is helpful in thinking about adult development. There is a general, predictable sequence that adults, like children, go through as they encounter new problems or information. The adult first tries to fit new knowledge or experience into existing cognitive structures. Information that appears totally irrelevant to existing structures tends to be disregarded. Experiences that do not quite fit cause modifications in the cognitive structures, but this is usually a gradual process. Next, the adult may try to use her new information, but tentatively, in a piecemeal, intuitive fashion, since it is not yet well assimilated. At this stage she gives up the new behavior or information easily. Then, as she assimilates the new input more thoroughly, she tends to use it, along with the old information, exactly as she has observed or been taught; she uses it in a very concrete, literal, legalistic way. Finally, as existing cognitive structures accommodate to the new information, with the old information undergoing change in being accommodated into the new structures, she will begin to generalize and use her new knowledge in a better-integrated, more formal (and scientific) way, systematically testing and validating it in varied situations. In this way adults actively select and modify the information they incorporate in their dealings with the physical and social environment.

Adults Adapt to Their Specific Environmental Situation

A corollary to the assertion that adults organize and interact with their environment is the idea that all adults adapt to their specific environmental situation. Differences

in behavior are to be understood primarily in terms of the type of environment the adult has adapted to rather than in terms of the presence or absence of some internal characteristic, such as "interest" or "potential." Thus, adults living in poverty exhibit behaviors that are adaptive to their circumstances as they interpret them. What is needed is to assist program participants in trying new ways of adapting to their circumstances that have a reciprocal effect on the circumstances themselves.

Distinctions Between Adults and Children

In applying Piagetian thinking to adult development, two major differences between adults and children should be kept in mind. First, adults already have acquired large amounts of information and many skills. Therefore, work with adults should focus on helping the individual differentiate and integrate (i.e., reorganize) new information and skills with previously acquired knowledge rather than focusing only on teaching new information and skills. Secondly, there is no intent to imply that adults pass through general stages of development. Rather, the sequences we have described refer to stages of processing information. A mother functioning at the high end of this sequence in dealing with children simultaneously could be functioning at the beginning of the sequence in the area of budgeting. Since adults are already functioning as independent, competent, self-directing individuals possessing a wide variety of skills and knowledge, it would be a mistake to generalize leadership and teaching methods applicable to work with children to work with adults.

Teaching Adults

This interactional conceptualization of adult growth and development has a number of implications for teaching adults. First, adults will try to incorporate new information and skills if these are slightly different from current information and skills, whereas they will not try to incorporate highly discrepant input[54]. Programs that approach participants with expectations of immediate large changes in information and skills will tend to induce withdrawals from the program or passive, temporary compliance. Rather than requesting sudden or large changes, programs should attempt to build in gradually increasing changes in expectations. (This also follows from a systems orientation.)

Since adults grow and develop primarily from rich, interactive experiences rather than simply from intellectual understanding or awareness, the effectiveness of general discussions of past or present ideas, beliefs or emotions in changing behavior is significantly increased if these discussions are concommitant with relevant, related activities. The thrust of the B-PCDC Model is on behavior rather than understanding or insight.

Implications for Program

From this orientation, it follows that a program should:

(9) Provide information and experiences in each particular information/skill area that are congruent with the mother's level of functioning in that area.

(10) Build upon the mother's current organization of her accumulated information and skills by helping her to acquire and integrate additional information and skills.

(11) Work toward helping the mother develop strategies in evaluating and validating information, i.e., achieve a formal level of operation in more areas.

(12) Structure the sequence of experiences available to the participants so new experiences are only slightly discrepant from previous experiences, requiring gradual changes in adaptation as opposed to sudden or large changes.

(13) Provide opportunities for adults to actively use new information and skills.

It should be noted that in this section we have been discussing adult growth and development with an orientation toward individual or intrapersonal characteristics. In the B-PCDC Model, individual characteristics are important only in as much as they feed into a larger circular process that involves interactions with the environment, including children, other adults, and institutions.

THE FAMILY--AN INTIMATE GROUP

The effects of group membership assume great importance when approaching individual change from a systems orientation.

Historically, most dominant educational and psychological approaches to understanding behavior have assumed that ideas, emotions, or forces within individuals were the primary explanations for their behavior, generally ignoring the interpersonal situation. The focus has been on the ways people perceive their situation, their expectations, and their reponse to internalized images carried over from the past. Much less consideration was given to the individual's actual situation, the expectations of others, and others' reponses to his/her behavior or physical characteristics. Even less consideration was given to the possible reciprocal interrelationships among individuals. In the 1950's, a new and vigorous interest in social behavior appeared in several areas: ethology, psychological experiments with humans, systematic studies of teachers' expectations on

children's classroom performance, and family life. In each of these areas there was a shift from explaining behavior primarily in individual terms to explaining the same behavior primarily in interpersonal or relationship terms.

Characteristics of Groups

The B-PCDC Model incorporates the more recent viewpoint, viewing mother-child interactions as embedded in and influenced by interactions and relationships with significant others--spouse, relatives, close friends and so forth. For example, the maternal grandmother may be the chief source of information on child care [37,65]. The early effects on the mother of such influences are further modified by ongoing experiences with other members of her family or friendship groups [66]. The influence of small group membership can best be understood by considering three group characteristics: structure, roles, and transactions (relationship tendencies) [60].

By the structure of a group we mean the characteristics of its subgroups and the roles and relationships among them. For example, a family typically has a parent subgroup, a parent-child subgroup, and a sibling subgroup [60]. Normally, these are distinct subgroupings with established roles and responsibilities recognized by all members. Psychological or sociological aberrations occur when this structure is disrupted, for example, when a child assumes the role of parent without adequate skills or preparation. In an intervention program such as the B-PCDC, teachers and learners form similar types of subgroupings.

By roles we mean functions and responsibilities assumed by individuals in the various subgroupings. For example, parent

roles can be categorized as emotional (mutual acceptance and support), economic (division of labor), and problem solving (sharing information and resources). For the parent-child subgroup, parent roles might be physical and emotional nurturer, socializer, monitor of contact between child and "outside" persons and organizations, and supporter of developing independence. Child roles might be: achiever of a degree of biological maturity, provider of emotional support for the parents, and protector of parents against social censure or pity from members of their own reference groups. For the sibling subgroup, roles might be: provider of peer models of behavior, ally in conflicts between generations, and facilitator of establishing personal identity.

The transactions of a group are the specific ways in which group members repeatedly and consistently fill their roles. Transactions are characterized by such factors as general feeling tone, who or what initiates a behavioral interchange, who or what terminates a behavioral interchange, the specific sequence and form of a group member's participation, and the consequences of the interchange. Although there are extremely large numbers of possible transactions within any particular group, over a period of several months transactions are relatively few in number. For example, in a specific family, composed of mother, father, brother and sister, the transaction observed at bedtime for the children will be highly consistent, night after night. The father announces it is 8:00; the mother tells the children it's bed time; the son nods his head and goes straight to bed; the daughter remembers something she needs to tell her mother and starts a conversation.

Group Influences on Individuals

These three characteristics of groups become important and useful once one understands that group membership has a major effect on individual behavior. We will describe only three of the consequences of group membership. First, the structure, roles, and transactions of a group form a set of rules which govern the behavior of members [41]. Secondly, the group exhibits a strong tendency to maintain its rules [1,14,49]. If any member breaks a group rule, the other members act together to get the "deviant" member to conform to the rule again. Only if the "deviant" member is powerful and effective will the group's set of rules change to accommodate the new behavior so that the member is no longer "deviant." Third, the group establishes a value system that determines the group member's susceptability to influences from outside the group. In other words, the group significantly influences who or what will be accepted by a group member, a fact that frequently causes problems for outsiders who wish to influence group members.

Application to Poverty

Now we can try to apply some of these concepts to understanding (and working with) the target groups of the PCDC Project. Low income, high stress families have been described as lacking involvement and interpersonal communication, hence appearing disorganized [39,56]. An alternative, more helpful way of describing the same families is derived from the theory and data on group functioning. The structure of these families frequently places members in inappropriate subgroups [56], such as a nine-year-old daughter and her mother placed in what should be the parent

subgroup, while the six-year-old son and the father are placed in what should be the sibling subgroup. The roles in these families frequently place responsibilities on members that are impossible to meet, such as the father working 16-hour days to try to meet the economic needs of the family but still being expected to serve as emotional nurturer for other family members. Probably the most important characteristic is the presence of transactions that generally fail to produce solutions to problems (indeed prevent problem solving) and typically end with the members of the group withdrawing from each other. The "disorganization" of these families can be more helpfully described by the structure, roles and transactions that characterize the family. Such descriptions suggest specific areas to work in as well as specific ways to work with the families.

Implications for Program

Although most of the theory and research cited and the examples used are concerned with families, these same ideas can be used to describe, understand, and direct an intervention program. The B-PCDC is viewed as an intimate group with structure, roles and transactions aimed at enhancing its participants' (both mothers and children) ability to effect accommodations in other groups of which they are members, establishing and sustaining more effective group rules. To this end, the program should:

(14) Focus on intimate interpersonal relations of adult members in addition to mother-child relations.

(15) Help the mother develop skills to counteract and redirect the negative forces arising within her own family and friendship groups, and teach these skills to other family members.

(16) Help the mothers improve their own rules by clarifying the existing structure, roles, and transactions that result in more effective problem solving and mutual involvement.

(17) Recruit staff who understand and accept the significant influence of extra-program factors, and who are able to work with the participants in ways appropriate to their individual home situations.

(18) Develop the structure, roles and transactions of the program so that it operates in a manner consistent with the ideals of an effective, functional, intimate group.

If the only factors that contributed to the detrimental effects of growing up in poverty conditions were the child, the mother, other intimate group members and their interactions, we would now have all the necessary components of a model. However, there are other factors--the community and social institutions with which the mother and child must interact.

POVERTY--A COMPLEX, INTERACTIVE NETWORK

In taking a systems approach to helping people break out of poverty, it is essential to consider the characteristics and effects of poverty itself. Poverty is defined as various combinations of conditions of insufficiency. Some of the more important conditions are the lack of adequate finances, education, job skills and opportunities, health care, nutrition, and communication demands. A systems orientation sees poverty conditions, adult adaptions to these conditions, and child development within the boundaries of these conditions, as forming a complex interactive network (a system) which tends to perpetuate itself. This conceptualization of an interactive network is based partly upon the formulations of Davis[34], Bernstein[20], and Hess[44].

Dynamics of the Poverty Network

Poverty conditions act as aversive environmental events which induce adaptive responses in adults. Many of these adaptive responses can be described as escape or avoidance behaviors. Children tend to model their own behaviors after the behaviors of significant adults; in this way the adaptations of adults to poverty are passed on to succeeding generations. A schematic representation of the interactive network formed by some poverty conditions, some adult adaptations and some child adaptions is presented in Figure 1.

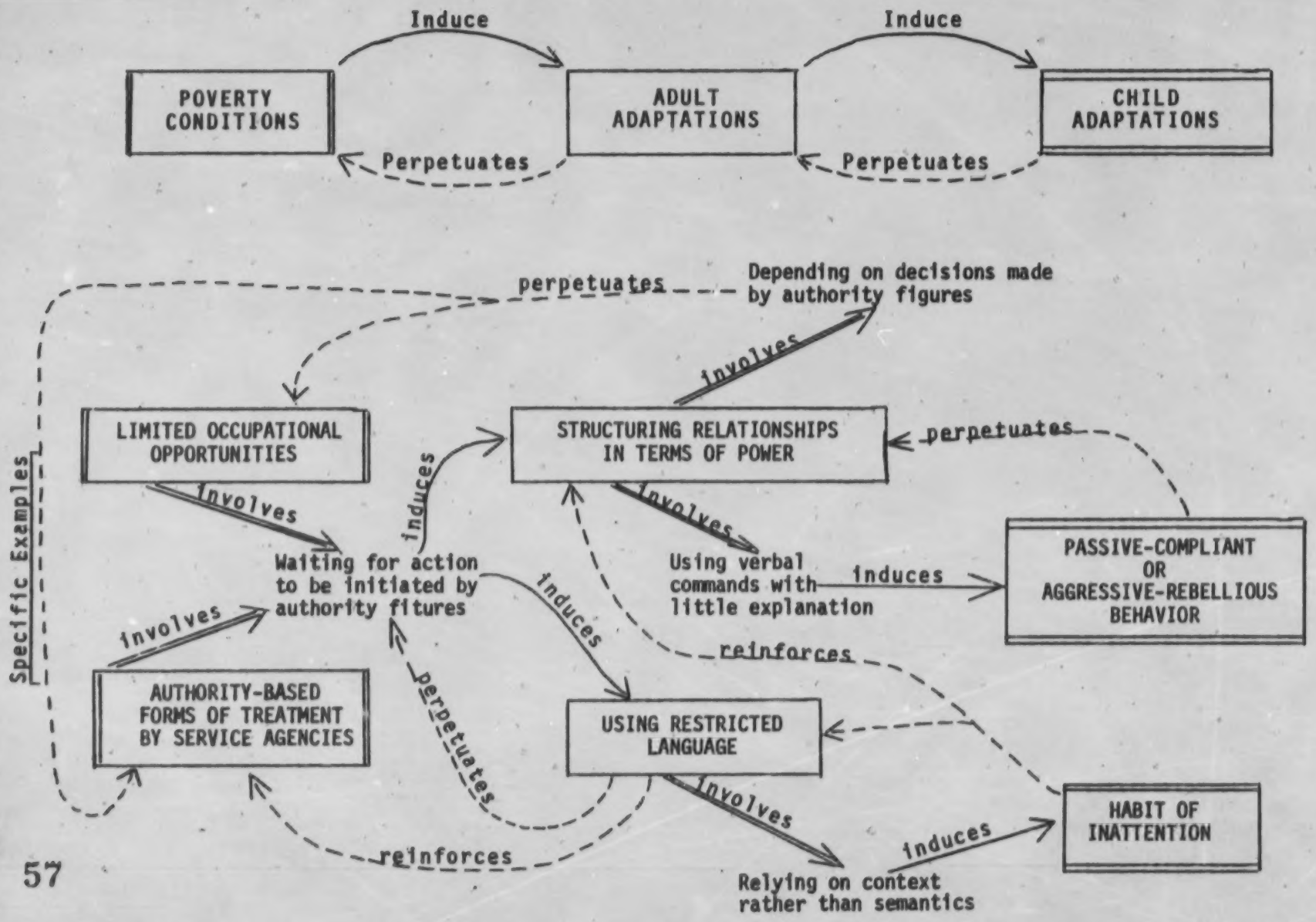
Insert Figure 1 about here

Poverty Conditions. Much research has established the presence of two common conditions of poverty: limited occupational opportunities[30] and authority-based forms of treatment by service agencies[44]. (See Figure 1, far left.) These two conditions share a common feature--the worker/recipients are often forced to wait for someone else in authority to make a decision or take action before they can act or get needed attention[44]. The condition of repeatedly being forced to wait for someone in authority to initiate action tends to induce two typical adaptive responses.

Adult Adaptions. One common but developmentally restrictive adaptive response (See Figure 1, center) to habitually waiting for action to be initiated by authority figures is to structure relationships in terms of power[44]. Thus, the poverty adult, in a powerless position, comes to expect to have little input into the decision-making process, eventually becoming dependent

FIGURE 1

Interactive Network of Poverty



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on authority figures for decisions. As the dotted arrows in Figure 1 indicate, this dependency tends to perpetuate limited job opportunities and authority-based treatment by agencies. A person who is accustomed to depending on others to make decisions is likely to accept and remain in subservient jobs, and to expect and accept authority-based treatment by service agencies (and even to be dissatisfied if something else is offered). When these individuals are placed in situations in which they are the authority figures, they tend to treat others as they have been treated. For example, they give their children commands with little explanation and expect obedient dependency [47].

A second adaptive response (center, Figure 1) to waiting for action to be initiated by authority figures (instead of taking initiative and responsibility oneself) is the utilization of restricted language. Such language usage comes, in part, from having the asking of questions and proposing of alternatives discouraged. (This is what happens in hurried, traditionally authoritarian agencies, as well as in subservient occupational roles.) As the dotted lines in Figure 1 indicate, the use of restricted language tends to reinforce and perpetuate typical treatment by service agencies. The individual who asks no questions and accepts advice obediently does nothing to cause accommodations in the authoritarian style of the agency. Furthermore, restricted language is an inefficient means of communicating one's exact needs and circumstances, requiring excessive time and creating time-consuming confusion. The frequent understaffing of community agencies, combined with

the excessive time required by clients with restricted language, perpetuates the necessity of passively waiting for action by authorities.

Child Adaptations. The adaptive responses of adults to poverty explain how one generation can be trapped by poverty and have difficulty breaking free. Poverty children are faced both with conditions of poverty and with the behavior of caregivers who have adapted to these conditions. Here we will discuss only the human interactions experienced by poverty children.

If poverty children are faced with adults who tend to use verbal commands with little explanation, they may adapt to these adult patterns of behaving either by becoming passive-compliant or aggressive-rebellious[32]. These child behaviors, in turn, tend to reinforce the parents' power orientation and use of commands without explanations. A threatening command may be the most effective way of getting action from an aggressive-rebellious child, and a passive-complaint child also may respond better to a command than to an explanation.

Parents who use restricted language, relying on context to transmit meaning, often have children who tend to ignore verbalization. Children who develop a "habit of inattention"[35] tend to reinforce the use of commands and restricted language by the adults who deal with them. Children who are generally inattentive tend to respond only to simple, repeated commands rather than elaborate explanations.

Thus poverty children adapt to their parents' behavior--which in itself was an adaptation to poverty conditions--in ways

that reinforce their parents' behavior and perpetuate a style of relating. This style of relating, combined with additional learning through observation (imitation), prepares children growing up in poverty to adapt most readily to poverty conditions. This notion of preparing the child for future roles can be used to explain the perpetuation of poverty from one generation to the next.

The mutually reinforcing relationship between parent and child in poverty tends to increase further the parents' adaptive responses to poverty conditions. If the parent continues to use power and restricted language with her children and significant others, the likely outcome is limited occupational opportunities and authority-based treatment by service agencies.

Role of Intervention Programs

This conceptualization of poverty as a complex interactive network has major implications for creating intervention programs. First, intervention programs directed at a single factor would not be expected to have large or long-term effects. Simply providing income supplements or additional social services without simultaneously providing for adults to learn alternative ways to use these things can produce better-paid and better-cared-for poverty adults only as long as the supplements and services are offered. Second, simply helping poverty adults acquire alternative ways to adapt to "new" conditions can produce poverty adults with special knowledge or skills that are never used, due to lack of opportunities and appropriate positive consequences. Third, simply teaching poverty children new behaviors can backfire by alienating them from parents who may

not understand, value, or positively reinforce such behavior. Such alienation may cause the child to abandon future enriching experiences. It is doubtful that an intervention program directed at a single factor would be sufficiently successful to justify the cost (both financial and psychological) of the obtained effects. A similar conclusion recently has been reached by Chilman[3/] in a review of parent education programs.

Implications for Program

The view of poverty as a complex, interactive, self-perpetuating network leads to three guidelines for implementing such a program:

(19) Create a multi-faceted program of services and information appropriate to the conditions/situation of the participants.

(20) Provide information and opportunities to use information that will help the participants change, rather than perpetuate, the detrimental aspects of this network.

(21) Provide both information and opportunities to use information that are helpful in the mother's dealings with the larger community, and in her facilitation of the development of her child.

* * *

The implications derived from this review and analysis of theory and data relevant to the family system provide more specific detail and direction for program operations than does the general systems orientation alone. These more specific guides are congruent with the more general guides generated by the systems orientation. (The interplay between the systems orientation and the component theory and data is most clearly seen in the sections on the family and the poverty network.) The guides developed represent the Birmingham Model, the

development of which was one of the tasks required by Phase I of the Project. The second required task was the development and documentation of a model-congruent program. This program is described in the next section.

PROGRAM

The PCDC Project specifies four needs for a program: goals, model-congruent practice, documentation materials, and process measures. The specific goals are the intended results of participation and serve as guides for evaluation. The model-congruent practice consists of the many procedures used by a center to achieve the specified goals. The documentation materials include curriculum guides and instructional materials. The process measures include the evaluation procedures and records for measuring the degree of implementation of recommended procedures.

Model-Congruent Goals

The overarching goal for the entire PCDC Project is to assist low income mothers in becoming more powerful agents for fostering the development of their own children, thereby preventing socioeconomic-status-linked, environmentally-based developmental lags. This general goal is broken down in different, specific ways dependent on the model utilized at a particular center.

For the B-PCDC, this goal is divided into four specific goals of which one relates to the individual characteristics of the mothers, and three relate to the various systems to which the mothers belong. The greater focus on groups is consistent with the Model. It should also be noted that changes in children are seen as mediated by changes in the mothers and

their transactions. Thus, what in other programs traditionally would be described as goals for children are more appropriately described in the B-PCDC as indicators of changes in the mother-child subgroup.

THE MOTHER AS AN INDIVIDUAL

The primary emphasis of the Birmingham Model is on transactions. However, individual or intrapersonal characteristics are important inasmuch as these characteristics feed into and affect various group characteristics. Therefore, the B-PCDC has the following goals for mothers as individuals:

1. Improve the participants' views of themselves and their world so that more desirable modes of interaction are facilitated. Improvement in feelings and attitudes of increased efficacy, assertiveness and general satisfaction are expected to contribute to the participants' ability to learn and incorporate new and more appropriate transactions.

2. Increase the participants' general communication skills. Increasing the participants' skills in reading, writing and speaking should strengthen the tendency for others to accept new and more appropriate transactions with the participants.

THE MOTHER CHILD SYSTEM

The Program participants are expected to develop transactions with their children that are more facilitative of cognitive and social-emotional development. In the most general terms, this means that the transactions of Program mothers and children should become more sensitive, warmer, and more responsive than transactions of Control mothers and children.

The B-PCDC has the following goals for the mother-child system:

3. Increase the cognitively stimulating aspects of mother-child transactions.

   a. Increase the quantity of intellectually stimulating interactions, such as problem solving and achievement-oriented behaviors.

b. Increase the quality of intellectually stimulating interactions, such as praising, encouraging and jointly participating in problem solving.

c. Increase the quantity of language-stimulating interactions, such as describing events.

d. Increase the quality of language-stimulating interactions, such as using person-oriented control procedures, explaining events, and praising and encouraging language attempts.

4. Increase the social-emotionally stimulating aspects of mother-child transactions.

a. Increase the quantity of social-emotionally stimulating interactions, such as comforting behaviors during the child's distress.

b. Increase the quality of social-emotionally stimulating interactions, such as varying the style of interactions according to the situational demands and developmental level of the child.

5. Improve the cognitive and social-emotional development of the Program children.

a. Improved cognitive development includes increases both in general intellectual competence involving such factors as attention, categorizing, reasoning and problem solving and in general communication abilities, including receptive and expressive language.

b. Improved social-emotional development includes increases in quality of attachment, adaptation to unfamiliar situations and use of adults as resources.

THE MOTHER-SIGNIFICANT OTHERS SYSTEM

The Program participants are expected to develop improved interactions not only with their children but also with other members of their friendship and kinship groups. Ideally, this means that the structure, roles and transactions of the various systems to which the participants belong will improve. However, B-PCDC goals in this respect are more modest:

6. Increase the participants' focus on relationships among persons involved in solving problems. This means that participants should become more person-oriented in describing situations and solutions to problems. This also means increasing the participants' consideration of mutuality and relativism in solving problems.

7. Improve the group characteristics of the systems to which the participants belong. This means improving the structure of the groups so that the adult participants can assume desirable adult and parent roles that are understood and accepted by the different members. In addition, it means improving the transactions of the groups such that more effective problem solving as well as emotionally supporting socializing occurs.

THE MOTHER-COMMUNITY SYSTEM

The Program participants are expected to increase their knowledge of the community and its resources and their skills in interacting with these resources in order to better meet their needs and those of their children and families. Stated in goal form, the Program should:

8. Increase the participants' knowledge of the community and its resources. Program participants are expected to become more knowledgeable of community organizations, neighborhood groups and individuals who are potential sources of assistance in times of need, as well as potential sources of information and advice in times of planning and reorganizing their general life situations.

9. Increase the participants' skills in interacting with these resources. Program participants are expected to become more effective in communicating their needs and desires to appropriate resources and to become more effective in assisting these resources to function more efficiently.

It is important to note that all the goals are stated in terms of increasing or improving various characteristics of the participants and the systems in which they are involved rather than in terms of achieving some arbitrary ideal. Mothers enter the B-PCDC with varying knowledge, skills, and interactional abilities, and the Program would be considered to be successful

if the mothers exhibited significant improvement in these areas relative to their initial starting points. It is not expected that the mothers (or the children) will all achieve the same level of functioning in all the areas of interest.

Model-Congruent Practice

Before describing actual procedures, we will briefly summarize the major aspects of the program. The program is unique in that it features a mother-teach-mother approach. Most of the teaching of new mothers in the program is done by more experienced program mothers. Thus, teaching itself becomes a powerful learning experience for the mothers. Also, the new mothers are more quickly brought into the B-PCDC system as a consequence of their teachers' similiarity to them in such things as background and language. All the care and teaching of children in the program is done by the mothers, providing an opportunity for immediate practice of what the mother learns, and demonstrating to her that she can actually use new learning in teaching her child. A small, permanent staff provides in-service training for the more experienced mothers and serves as resource persons, advisors, consultants, and advocates for the mothers. The program is entirely Center-based, and the program population is racially integrated.

The procedures for achieving the goals of the program will be described in four sections: the elements of the environmental support system, the sequence of mother experiences, the sequence of child experiences, and the methods of instruction.

ENVIRONMENTAL SUPPORT SYSTEM

The program elements described in the present section were furnished on the basis of practical experience enabling the identification of major needs and pressures that, if not planned for, would have prevented regular and sustained participation by mothers. The features of the environmental support system are most easily presented in terms of the specific "Implications for Program" (see pages 23, 56) which generate the feature. It should be emphasized that the examples are intended as illustrations and are by no means exhaustive of all of the different ways each implication is used.

Decreasing the stress experienced by participants is accomplished in several ways. Transportation to and from the Center is provided for most of the mothers. Nutritious meals (breakfast and lunch for children, lunch for mothers) are served. Clothing (tee shirts, diapers, training pants, socks) is provided for the children while they are at the Center. Both preventive and emergency health care and counseling are provided for mothers and children by the staff nurse and a consulting pediatrician. Provision for various social service assistance is made by staff serving as advocates for the participants. A $5.00 per day stipend is provided to meet needs not covered by other parts of the program. For example, in Alabama this stipend allows the mothers to meet the minimum income requirements for public housing and reduces the need for cheap intermittent employment. Home economics classes, consumer protection information, and social service workshops also indirectly help to decrease stress.

Providing for choices from a range of interaction opportunities is accomplished in several ways. The B-PCDC provides mothers with the opportunity to take on roles involving varying degrees of reponsibility and leadership. Model Mother status, Parent Advisory Board participation and membership on various committees all allow decision-making with real and often immediate consequences. The B-PCDC day is structured to encourage informal social interaction at times, and at other times activities are more formally organized. Elective special interest classes are organized to accommodate the interests and skills of the mothers, and a skilled mother can take on a teaching role. Frequently, the mother is encouraged to decide on the type of experience she wishes to gain. Role expectations for mothers at all levels include such assertive behaviors as asking questions and making suggestions. Staff and mothers who are functioning in leadership roles are expected to encourage questions and suggestions, and to be able and willing to explain the reasons for what they do. Part of the role learning of staff and Model Mothers is learning not to "take over" and solve a participant's problem, but rather to contribute to the process whereby the participant finds ways to solve it herself. Because many poverty mothers lack experience in other than subservient positions, special efforts are made to encourage them to gain experience in more assertive roles.

Building on the positive aspects of participants' relationships is accomplished by making explicit the contingencies between actions and outcomes. Contingencies between individual actions and assumptions of the various roles for mothers are communicated

through written material (e.g., role descriptions and behavioral expectations), casual discussions, group training sessions, and regular evaluation/feedback sessions for both participants and staff. Contingencies between individual action and special problems (or achievements) are communicated through emphasizing the contributions of all parties involved in a conflict (or special accomplishment) rather than trying to determine who was most responsible. This tends to focus interest on relationships rather than individual characteristics. Contingencies between group action and outcomes are communicated by having the participants, as much as possible, not only make decisions about activities at the Center and trips away from the Center but also make the necessary preparations and arrangements for these events to occur (staff members act as consultants and advocates). These contingencies are made clearer by: curriculum materials and casual conversations focusing on descriptions of social systems and how they work, the teaching of various ways for the participants to assess their own impact on other people and in different situations, and the teaching of a general problem solving strategy applicable in different situations.

Clarifying and changing current relationships and situations are related to many of the activities of the program. Developing awareness and use of alternative explanations and approaches is stressed. The curriculum materials, lesson planning sessions, problem solving meetings, and regular interviews by the teaching mothers are all presented as alternatives rather than "the answers." Practical problems (such as feeding infants mixed meats and vegetables vs. separate meats and separate vegetables)

are often handled by going along with the participants who build the strongest case for a solution. (Interestingly, in an actual disagreement on foods, the staff members "lost" because all they offered were statements that the infants could not tell the difference, while the mothers accumulated behavioral observations that "disproved" the staff position). Representatives from different parts of the community (physicians, policemen, day care center operators, former participants, and so forth) participate in question and answer sessions with the mothers.

The major consequence of these aspects of the program is an environmental support system that encourages the mothers and children to achieve by their own efforts the goals that they consider most important. Going beyond the environmental support system, we will describe the program features and, in doing so, relate these features to specific guides.

SEQUENCE OF MOTHER EXPERIENCES

The sequencing of mother experiences has been influenced both by child development considerations and by consideration of the mothers' needs to broaden, extend, and diversify their own experience and knowledge.

Participating Mother Role

When a mother first enters the Birmingham Program, she assumes the role of a Participating Mother (PM), and with her child(ren) attends the Center three days a week. The PM initially spends her time in Babyland (a nursery for children aged 3 - 6 months) with her own child, in line with the theory of attachment. Except for the teaching mothers (Model Mothers), all the mothers

in this group are new, which keeps the mother from feeling out of place. Here the new mother is paired with a slightly more experienced mother (sort of a buddy assignment) to help both mothers feel as though they belong. With the guidance and support of the Model Mothers, the PM engages her child in special curriculum activities and provides for her child's general physical and emotional needs. The curriculum introduces the PM to basic concepts about the very young child and provides structure and support for the Model Mothers in their teaching role. While in Babyland, the PM is able to discuss with other mothers matters of general adult interest as well as the demonstrated activities and principles of child development.

The first few months are the time when the mothers adjust to the Center and form subgroupings in the B-PCDC system. While the mothers work with and care for their own children, the focus is on the mother's adjustment. After the child is six months old and the Model Mothers (teaching mothers) feel the new mother has adapted to the Center, the mother and her child move to another nursery for older babies.

The baby stays in this nursery until he/she is 18 months old. And, the mother stays with this group for about six months. This enables the further development of attachment not only to the mother, but also to other adults in the nursery. In this stage, the mother has the opportunity to learn new skills and is able to interact with other mothers and other babies. This is an important step if the mothers are to acquire more rewarding interpersonal interaction skills in a variety of situations. The PM still interacts with and cares for her own child. The

experience of mothers and children, learning together in this nursery, facilitates the development of both primary and secondary attachments and also allows the child to become very familiar with the room and the other children. In addition, the PM now has the opportunity to observe children older than her own, developing ideas and expectations about the next year of her child's life. The Model Mothers guide and support the PM in learning alternative ways to care for and stimulate her child. These are discussions and interactions with other mothers in the nursery, and the PM also attends a home economics class for one and one-half hours one morning, a one-half hour discussion session of videotapes of mother-child interactions (including videotapes of the PM and her own child) one morning, and a special interest class (such as molding, crocheting, or preparation for the high school equivalency examination) one hour after lunch, while most of the children take naps. The varied activities and interactions of mothers in this group have a pervasive pleasant, casual character. The absence of the mother for brief periods of time begins the detachment process.

When the child is about 12 months old and seems to have adjusted to the Center (for example, has at least one identifiable secondary attachment figure), the PM works in other parts of the program for two to four week periods. In this way, she becomes more familiar with the entire child curriculum and the whole program. Her child stays in the same nursery with the other children and adults he/she has come to know over the past six months, an experience that furthers detachment. The PM continues to attend her home economics class, to attend her

special interest "choice" class, and to see her child periodically during the morning. An attempt is made to strike a balance between conditions facilitating attachment and those supporting detachment. These three months serve as a transition period for the mother to her next role in the program.

Senior Participating Mother Role

When her child is 15 months old, the mother takes on a new role--Senior Participating Mother (SPM). The SPM and her child attend the Center five half days a week and continue to receive free transportation, meals, and a stipend of $5.00 a day. The change in roles is made most clear by the increased attendance and by the mother's participation in training classes for the Model Mothers on Fridays.

The SPM works as an understudy to the Model Mothers and various permanent Center staff members, attending some of the training classes and working side-by-side with Model Mothers or permanent staff. If the SPM were to decide to continue in this role throughout the remainder of her time in the program, she would: (a) work five months with Model Mother Is, learning the skills of teaching and interviewing without having to assume full responsibility; (b) work five months with Model Mother IIs, learning the skills of teaching, planning, and nursery supervision without having to assume full responsibility; (c) work three months in the 3 to 6 year old "siblings' preschool," learning to extend her previously acquired skills to working with a small group of older children; (d) work four months with a Counselor, learning the skills of advising, consulting, and planning and conducting group training sessions;

and lastly (3) work in an area of the program that she feels to be most enjoyable and important to her. During each of these understudy roles, the SPM continues to attend choice classes and to have pleasant, casual interactions with children and other mothers. The focus of these experiences is on parenting and general adult skills rather than on preschool teaching or administrative skills.

The sequence just described for the SPM is for those mothers who choose to remain SPMs. However, relatively few (less than 20%) of the mothers in the Birmingham program have remained in this role for the full 33 months. The other 80+% of the mothers choose to become Model Mothers. It is important to note that the decision-making power is in the hands of the mother, reinforcing her real participation. She has to determine what position best suits her and her child(ren), especially since the change from PM to MM is dramatic (i.e., longer hours, financial aspects, her home life, etc.)

Model Mother Roles

After a mother has been a SPM working with Model Mother Is for three months, she may become a Model Mother if: she desires to assume the responsibilities; she is judged by peers and permanent staff to have acquired the necessary skills; and a Model Mother vacancy occurs. For most of the SPMs (except those few who never choose to become Model Mothers), the question is when they will become Model Mothers and not whether they will become Model Mothers. Those mothers with special weaknesses, such as weak reading or writing skills, are provided with individual tutoring, so the lack of necessary skills very rarely

prevents a move to the Model Mother status. Individual growth is aided not only by providing routine, scheduled activities, but also by making special arrangements for individuals.

When a mother becomes a Model Mother, she and her child come to the Center five full days with the additional time for the mother spent in training, planning, and record keeping. She continues to receive lunch, but now she provides her own transportation and receives a stipend of about $13.00 a day. In Birmingham, the increased stipend only slightly increases the real purchasing power of the mothers, since it typically eliminates all welfare benefits. These changes help to highlight the mother's new responsibilities, and she becomes more independent. After her previous experiences and understudy roles, the new responsibilities constitute slight changes or discrepancies from her previous experiences.

Model Mother I. The new Model Mother first assumes the role of Model Mother I (MMI). As a MMI, she is a teacher-learner working primarily on a one-to-one basis with other mothers and children. The MMI works in one of the nurseries during the four mornings that PMs attend the Center. The activities of the MMI during this morning period include: scheduled weekly interviews with the individual PMs covering topics such as the special curriculum activities, child development principles, adult growth principles, and personal problems either at the Center or outside the Center as raised by the mother; working and playing directly with the children in the nursery; assisting and supporting the individual PMs in acquiring information and skills; working out schedules; helping to maintain the nursery. These activities are viewed most often in terms of what the MMI

does for others. However, these same activities also foster her own growth. For example, in interviewing, the MMI is learning effective ways of giving and obtaining information from other adults. Having to communicate specific ideas to others (as opposed to simply parroting words) and having to obtain specific information (as opposed to listening and watching passively) are very effective conditions for encouraging the mothers to make the ideas and related skills she has heard about part of her actual repertoire of behavior. The MMIs learn that clear and distinctive communication is not only a good idea, but that it is also functional in solving problems and creating more pleasant interpersonal relations. Thus, in the mornings the MMI is a teacher of other mothers and children as well as an on-the-job learner. At these times, the permanent staff serves as consultants, advisors, and advocates for the Model Mothers, and the permanent staff and Model Mothers are jointly accountable for the functioning of a nursery, a joint responsibility that links them in a special Center subgroup.

In the afternoons and on Fridays, the MMIs attend their "choice" classes and training classes, prepare the nursery, and review their records to plan for subsequent days. The training classes are conducted by the permanent staff and include: child development, adult growth, environmental (furniture, materials, and decorations) support, community social services, music, health education, feedback/evaluation, lesson planning, and interviewing. These classes are conducted primarily by discussions, demonstration, and role playing techniques that foster participation and a group orientation (as opposed to passivity and an individual focus). In addition,

the Model Mothers utilize part of one afternoon each week for group adult activities (such as bingo, cards, or field trips), and they work and play with their own children part of three afternoons each week. Assumption of the Model Mother role does not eliminate the pleasant adult interactions, or interactions of the mother with her own child.

Model Mother II. The next role available to the mother is that of Model Mother II. After a mother has worked as a MMI for three months, she may become a MMII if: she desires to assume the responsibilities, she is judged to have acquired the necessary skills by peers and permanent staff, and a MMII vacancy occurs. Again, the new responsibilities represent a slight discrepancy from the mother's previous experiences.

The move to MMII is demarcated by only two structured changes--the daily stipend is increased to $14.00 and the mother attends a training class in supervision and demonstration in place of the class in interviewing.

However, the MMII role is functionally different in the mornings. As a MMII, the mother is a teacher-learner working primarily on a one-to-many basis with other mothers and children. Her activities include: demonstration of selected children's curriculum activities for the other mothers; support and encouragement of both the mother and child in doing the activities; leading informal group problem-solving or conflict-resolution sessions; planning and supervising all the activities in the nursery; and maintaining materials and supplies for the nursery. In short, the MMIIs (two in each nursery) assume the

primary responsibility for a nursery. The MMIIs acceptance of primary responsibility benefits the Center, but also is effective in encouraging the mother to increase her own skills and information. Once a person has the minimum necessary information and skill, nothing is as effective a teaching technique as having to use the information and skills. The permanent staff serves as consultants, advisors, and advocates for the MMIIs as they do for the other mothers.

In the afternoons and on Fridays, the MMIIs continue the same experiences they had as MMIs, but there are explicit expectations that they will assume more of a leadership role. They still attend their "choice" classes and training classes, prepare the nursery, review records to plan for subsequent days, participate in adult group activities, and work and play with their own children. Individual and unstructured interactions with one another and with the permanent staff significantly supplement the training experiences of the MMII.

The policy of having mothers working primarily on a one-to-one basis as MMIs before working on a one-to-many basis as MMIIs need additional note of explanation working on a one-to-one basis generally involves less complex group structure and roles which are easier to learn. However, the transactions acquired in a one-to-one situation are basic and applicable to the more complex structure and roles involved in work with groups.

One final role is available to some of the MMIIs. Exceptional MMIIs who have 3 to 6 months remaining before graduation may choose and be selected to fill the role of Senior Model Mother (SMM). A SMM works in an area of the program which is of most interest to her and which needs additional assistance.

For example, if the mother is interested in entering nursing after leaving the program and if the nurse can use an assistant to improve the quality of care and education provided to participants, then the SMM could serve as an assistant to the nurse. Other areas selected by SMMs in Birmingham have included: the siblings' preschool program, home economics, secretary-receptionist, arts and crafts, and assistantships with various permanent staff members. Indeed, some former participants are now permanent staff members. The activities of a SMM are worked out on an individual basis with special emphasis given to making explicit the expectations of the Center and the benefits to the SMM in her new role.

The complete sequence of experiences available to the adult participants is summarized in Table 1. This sequence is intended to provide pleasant and beneficial growth opportunities for

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Insert Table 1 about here

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participants with widely varied backgrounds and interests. Even though structured, it is not intended to be regimented. Even though minimum content is specified, it is not intended to be used to eliminate individual and cultural differences, or to inhibit individual creativity and initiative. On the contrary, this sequence is intended to maximize participants' input and determination of the program.

SEQUENCE OF CHILD EXPERIENCES

The sequence of adult experiences indicates the numerous areas of the program in which mothers may participate; in contrast,

Table 1

Sequence of Mother Curriculum

Age of child	Mother's Room Assignment	Mother's Title	Attendance & Assistance	Major Experiences	Expectations for Mother	Rationale
3½ - 6 months	3½ - 6 month nursery (maximum of 2½ months)	Participating Mother (PM)	3 days/week for 4½ hours; lunch; transportation; $5.00 per day stipend	Work with own child; health classes; home economics class; choice class	Initial adjustment to center; learn roles of different members of center; learn new transactions with own child	Relative homogeniety of classes in terms of experience of mothers & ages of children minimizes stress of learning new transactions; transportation and stipend helps decrease stress in home system to permit changes necessitated by center attendance; choice classes reinforce concept that center is for both child and mother
6 - 12 months	6 - 18 month nursery (6 months)	PM	(Same as above)	Work with own child; home economics class; choice class; Advisory Board meetings	Learn new transactions with own child; learn new transactions with adults; develop expectations for own child from observing and interacting with older children; prepare for separation from child; increased assumption of responsibility	Increased ranges of children's ages and mothers' experience in center place greater demands on mother and child to learn new transactions; physical change in nurseries emphasizes developmental changes in child and redefines mothers' role as learner

Table 1 (Continued)

Age of Child	Mother's Room Assignment	Mother's Title	Attendance & Assistance	Major Experiences	Expectations for Mother	Rationale
12 - 14 months	18 -36 month nursery (2 months)	PM	(Same as above)	Work with older children; home economics class; choice class; Advisory Board meetings	Become familiar with activities and responsibilities in older children's nursery	Prepare mother for future decisions regarding her roles in center; temporary assignment decreases stress of separation from child; distinctive transition for her changing roles and responsibilities in center; increase awareness of future expectations for own child.
14 - 15 months	3½ - 6 month nursery (1 month)	PM	(Same as above)	Work with younger children & mothers home economics class; choice class; Advisory Board meetings	Refamiliarize self with younger children's nursery; begin to learn to teach both mothers and children	(Same as above)
15 - 20 months	Nursery of choice (3-5 months)	Senior PM	5 days/week for 4½ hours; lunch; transportation; $5.00 per day stipend	Apprentice to Model Mother I working with both mothers & children; interview training sessions; health class; choice class; Advisory Board meetings	Learn role, responsibilities and skills of Model Mother I	Apprenticeship permits mothers to learn skills of teaching and interviewing without assuming full responsibility. (After 3 months of apprenticeship may decide and be selected to become Model Mother I)

Table 1 (Continued)

Age of Child	Mother's Room Assignment	Mother's Title	Attendance & Assistance	Major Experiences	Expectations for Mother	Rationale
20 - 25 months	Nursery of choice (0 - 5 months)	Senior PM	5 days/week for 4½ hours; lunch; transportation; $5.00 per day stipend	Apprentice to Model Mother 2 working with both mothers & children; lesson planning sessions; choice class; Advisory Board meetings	Learn role responsibilities and skills of Model Mother 2	Apprenticeship permits mothers to learn skills of teaching, planning & nursery supervision without assuming full responsibility.
25 - 28 Months	Older Siblings' nursery (0 - 3 months)	Senior PM	(Same as above)	Assistant to permanent staff caregivers; activities planning sessions; choice class; Advisory Board meetings	Extend previously learned skills to older children; assume more responsibility for children; work with groups of children	Assistantship requires mother to assume more responsibility than previously acquired skills with minimum supervision.
28 - 31 months	Nurseries of assigned Supervisor (4 months)	Senior PM	(Same as above)	Assistant to supervisors; assist in instructing, training & planning sessions; choice class; Advisory Board meetings	Learn role, responsibilities and skills of supervisor	Assistantship permits mothers to learn skills of supervisor without assuming full responsibility; enables mother to understand integrated functioning of different components of program

Table 1 (Continued)

Age of Child	Mother's Room Assignment	Mother's Title	Attendance & Assistance	Major Experiences	Expectations for Mother	Rationale
31 - 36 months	Nursery of choice (5 months)	Senior PM	(Same as above)	Dependent on nursery selected	Dependent on nursery selected	To develop further the mother's skills in activities she most enjoys; to serve as backup or temporary fill-in for others who chose to assume full responsibility
at least 18 months	Nursery of choice (3 - 18 months)	Model Mother I	5 days/week for 8 hours; stipend of $277.00/month	Works primarily with mothers individually; training classes in child development, adult development & interviewing	Teacher-learner inducing changes in transactions by working with individual; teacher-learner recording & evaluating different sources of information	Loss of transportation combined with increased stipend & hours of attendance delineates change in role and assumption of greater responsibilities; selection to provide best models increases effect of center on mother - child dyads; serving in explicit role of teacher furthers development of these mothers (after 3 months, may choose and be selected to become Model Mother 2)
at least 21 months	Nursery of choice (6 - 15 months)	Model Mother 2	5 days/week for 8 hours; stipend at $300.00/month	Responsible for nursery; works with both mothers and children; training classes in child development, adult development, lesson planning and classroom management	Teacher-learner inducing changes in transactions by working with more than one person; teacher-learner planning and supervising classroom activities	Increased stipend delineates change in role and assumption of greater responsibilities; selection to provide best models increases effect of center; serving in explicit role of teacher furthers development of these mothers (after 6 months & having at least 3 months to go in program, may choose and be selected to become Senior Model Mother)

Table 1 (Continued)

Age of Child	Mother's Room Assignment	Mother's Title	Attendance & Assistance	Major Experiences	Expectations for Mother	Rationale
at least 30 months	Area of choice (3 - 6 months)	Senior Model Mother	(Same as above)	Assistant to supervisors; assistant in home economics; assistant to audio-visual coordinator, to nurse, etc.	Special teacher-learner working in area which she desires to gain special skills and can have a maximum effect on other PCDC members	Exceptional participants who desire to learn a special skill are permitted to advance, in terms of responsibility and visibility to others, as far as possible without becoming a permanent staff member; such exceptional individuals can also benefit the center in numerous ways

the children attend only three separate nurseries in a comparable period of time. The sequence of adult experiences also indicates the numerous roles available to the mothers; similiarly, the children experience expanding, changing activities and stimulation appropriate to their developmental levels.

Nursery I--Babyland

Initially, the child with his/her mother attends Babyland. Most of the children in this nursery are between three and six months of age, with almost none of them mobile. The Center provides formulas, baby food, vitamin supplements (as prescribed), diapers, tee shirts, and socks for the children while at the Center. Regular health check-ups, immunizations, and some materials for stimulation (additional materials are made by the mothers) are also provided. The mothers engage the children in special curriculum activities such as orienting to visual and auditory stimuli, exploring objects both visually and tactually, and attending to discrepancy in repeated events. The activities demonstrated to the mothers (in this and the other nurseries) have been adapted from the Karnes Infant Stimulation Curriculum[52] or from the Pekarsky, Kagan, and Kearsley Curriculum[58], or have been developed and described by previous participants and staff members, or are generated by current participants. These activities serve to facilitate cognitive development, establishing the foundations of later attention and mental schemas, and to facilitate social-emotional development, fostering discrimination of the mother from other adults in order to aid the future development of attachment, for example.

Nursery II

At about six months of age, the child and his/her mother transfer to a nursery for children 6 to 18 months of age. This age range provides the younger children just beginning to be mobile with older, more competent peer models of mobility to imitate. The Center continues to provide materials and services.

In the 6 - 18 month nursery, the mother initially provides for all the physical and emotional needs of her child. Gradually, other mothers provide more care and stimulation for the child. The mothers engage the children in such activities as attending to discrepancy in repeated events, manipulation of objects, body control, and outdoor (playground) excursions. The mother's involvement with her own child facilitates the child's discrimination of the mother from other adults, the development of object permanence, and finally, the development of attachment to the mother. The increasing range of warm interactions with other adults who remain in the room (i.e., the Model Mothers) provides for development of secondary attachment figures.

At about 12 months of age, when the child appears to be secure and comfortable in the nursery during his/her mother's brief periods of absence, the mother moves to another group while the child remains in the same nursery until about 18 months of age. Separation of the mother and child is not an abrupt, "cold" event. For those children who accept the mother's absence with little fuss, the separation process can occur over a period of a day or so. For those children who are upset by the mother's absence, the separation process may take months. The mother's feelings are involved in this process as well as the child's,

and the mother's reactions to separation are also part of the determining factors in speed of separation. Regardless of the speed of completing the separation process, the mother and child continue to have opportunities during the morning to interact with one another. By 12 months of age, the child is fairly mobile (crawling, if not walking), vocal, and curious about his/her environment. The child continues to be stimulated and cared for by the other mothers in the room. Curriculum activities are expanded to include such things as: verbal and physical control of the environment, beginning language stimulation, and beginning size, color and form discrimination. The mother's absence is intended to increase the development of independent exploration of the physical and social environment.

Nursery III

At about 18 months of age, the child transfers to his/her final nursery in the Center. At this time the child is quite mobile, beginning to interact more with peers, and is entering a period of vary rapid verbal development. The other children in this new nursery range from 18 to 36 months of age and are often very verbal, thus providing peer models for the younger children. All of the care and adult interaction is provided by mothers other than those of the children--these children's mothers are now either Senior Participating Mothers or Model Mothers. The curriculum activities for these children include increased language stimulation, some complex manipulation of the environment, outdoor (playground) activities, and some simple peer-group activities. The most obvious and rapidly developing skill for these children is language, hence the age grouping and the emphasis

on language stimulation. Of less obvious but equal importance is the beginning of true (reciprocal) social behavior, hence the introduction of relatively simple, peer-group activities.

The sequence of the child curriculum is summarized in Table 2. The sequence of age groupings in nurseries as well as the

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Insert Table 2 about here

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sequence of experiences in each nursery was selected to facilitate the cognitive (including language), social-emotional, and physical-motor development of the children. Although the descriptions of the child's experiences emphasize the "average" developmental level, the mothers adapt the activities and experiences to the developmental level of the individual child. In addition, although suggested sequences of curriculum activities are provided for the mothers, the mother modifies the sequence for the individual child, giving her more control in decision-making.

MAJOR METHODS OF INSTRUCTION

Modeling or demonstration (in contrast to verbal description and direction) is one of the most effective ways of communicating possible transactions to other members of a system. Modeling is a major technique used to teach new transactions to mother-child dyads and it is also a technique taught to the mothers as a way of interacting with their children. The work of Bandura provides the major basis for developing and guiding the modeling process.

Guided practice combined with reinforcement in a supportive, protected environment tends to enable the member or members of

Table 2

Sequence of Child Curriculum

Nursery Assignment of Child	Location of Mother	Primary Activities for Child	Rationale
I. 3½ - 6 months of age	With child	Orienting to visual and auditory stimuli; visual and tactile exploration of objects; Attending to discrepancy in repeated events.	Mother is with child to facilitate discrimination of her for future attachment; the narrow age range creates homogenous group of mothers and children to minimize stress.
II. 6 - 18 months of age			
A. 6 - 12 months of age	With child	Attending to discrepancy in repeated events; environment consistently responsive to child's increased interest and skills of manipulation; observing and creating initial event, change in event and then recreating initial event.	Move to nursery with older children provides models of mobility for child to emulate; mother remains with child for differentiation of child from mother, development of object permanance and, finally, attachment to the mother; a model mother is in the room with the child for at least three months for secondary attachment to occur
B. 12 - 18 months of age	In nursery other than child, but seen by child several times during day	Verbal & physical control of environment; language stimulation; discrimination of size, color and form.	The mother being absent from the nursery combined with the presence of the secondary attachment figure increases detachment (independent exploration of physical and social environment)
III. 18 - 36 months of age	In nursery other than child	Verbal & physical interactions with environment; language; peer interactions.	All children are mobile and at least beginning to talk; older children begin to develop peer interactions; younger children copy older children.

the system introducing change to identify and react rapidly and effectively in counteracting the numerous factors which inhibit change in a system. This technique is used by the teaching mother in working with other mothers and by all mothers in working with their children.

Written materials compiled into manual form serve as guides and role descriptions for the mother in all phases of the program. These materials provide both the themes and summaries of many of the individual and group discussions between the mothers and the staff. In addition, written materials (manuals, guides, and class outlines) which correspond to the participants' materials are provided for the permanent staff. The information contained in written materials is communicated to participants primarily through discussions; the acquisition of information in these materials is not solely dependent upon the participant's reading abilities, although the materials were designed to be easily read. (See Appendix O for a complete listing of documents.)

Constructive, evaluative feedback is used to communicate role expectations clearly and to serve as reinforcement for the mother's new behaviors. The feedback occurs in two forms. Videotapes are made of individual mother-child interactions around specific curriculum activities and are then discussed in small groups. The video-tapes and disucssions provide feedback on specific mother-child interactions. More general and comprehensive feedback is provided to the members of the B-PCDC by means of monthly, written evaluations by peers and teachers. These written evaluations provide a basis for individual discussion with the mothers of their progress, their goals, and their expectations.

One-to-one structured interviews by Model Mothers with other mothers in the program are used to communicate specific information about child development, adult development, and the interactions between people. These interviews are the primary ways of communicating specific content in the written materials provided to all mothers.

Topic-centered, leader-directed group discussion is perhaps the most often used method in training classes for the teaching mothers. The topics for these discussions are most often introduced by the Counselors who conduct the special training classes. The topic is usually a general problem encountered by the teaching mothers in their roles in the Center, and the discussion focuses on alternative conceptualizations of the problems, alternative means of solving them, and relations between the problems in the Center and those in the home and elsewhere.

Traditional, didactic type classes occur in four areas: home economics, elective special interest (choice) classes, health education classes, and arts and crafts classes. These four areas require communication of specific information in relatively large groups. The didactic nature of these classes occurs only in the beginning of a session and then, following initial introduction of specific information, classes generally change into topic-centered discussion groups.

Informal, social discussion between participants is one of the most persuasive methods used in the Center, and yet it is one of the most difficult to describe. Such discussions range from pure social play to personal problem-solving regarding such things as future plans for maintaining incomes after leaving the program.

In summary, many methods of instruction are used in the B-PCDC. The general context and setting in which these methods are used is considerably more informal than that found in traditional teaching institutions.

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The model-congruent practices represent only one of the four parts of the Program required by the PCDC Project. The last two parts are documentation materials and process measures.

Documentation Materials

The documents for the Birmingham Program are divided into two types: materials for permanent staff and materials for participants. We will simply list the documents here. A more detailed description, including purpose and use of each document, is presented in Appendix O.

MATERIALS FOR PERMANENT STAFF

1. Program Rationale and Theory
2. Supervisory-Instructional Staff Text
3. Administrative Guide
4. Program Operations Manual
5. Guide for 3 - 6 Year Old (Older Siblings') Nursery
6. Evaluation/Feedback Coordinator's Manual
7. Teaching Manual for Model Mothers' Materials
8. Teaching Manual for Health Care/Health Education
9. Teaching Manual for Environmental Support
10. Guide for Use of Videotape
11. Teaching Manual for Music Workshop

12. Teaching Manual for Social Service Workshop
13. Teaching Manual for Home Economics
14. Teaching Manual for Arts and Crafts
15. Teaching Manual for Adult Education
16. Guide for Choice Class Instructors
17. Guide for Libraries

MATERIALS FOR PARTICIPANTS

1. Participating Mothers' Book
2. Senior Participating Mothers' Role
3. Participants' Guide to 3 - 6 Year Nursery
4. Model Mother I Book
5. Model Mother II Book
6. Mother-Child Activities Manual

Several documents have sections written specifically for the Birmingham Center. For example, The Participating Mothers' Book contains a section describing the specific routines of this Center and the names and locations of some staff members. This necessitates a minimum amount of rewriting of the documents for use in other centers.

The documents are intended to be used as guides for implementing similar practices at other sites. As guides they do not constitute a body of absolute laws to be followed in a blind, legalistic way. Staff members using the guides, at other sites as well as at the Birmingham Center, are expected to continue to evaluate the materials and to share potential refinements with all programs based on the Birmingham Model. The documentation materials are therefore expected to be revised and refined as the Model and Practices are evaluated and better understood.

Process Measures

The fourth requirement for programs participating in Phase I of the PCDC Project is to produce measures of the implemented practices. These measures are referred to as process measures. Process measures are used to specify the independent variables (or treatments) at different sites so that determination can be made of similarities and/or differences in treatments. The similarities and/or differences in treatments can then be used in interpretation of similarities and/or differences in measures of the dependent variables (or results). In addition, process measures are to be used to help keep replication treatments true to type and substantially quality controlled. (This use of the measures is sometimes referred to as formative evaluation.) Only when measures of the implemented practices can be so specified can the models and programs be experimentally tested.

Examples of data needed for specifying the independent variables of a program based on the Birmingham Model include attendance records, ratings of participants' behavior in training classes, ratings of quality of parent-child interactions, and records of in-service staff training. An unusual feature of the Birmingham Model is that most of these data are derived from integral characteristics of the system created in the program, rather than being obtained by means of separate, added-on procedures. Relatively few measures need to be made that are not already a part of the day-to-day practices.

An important component of the B-PCDC program is its formalized evaluation/feedback system for describing the performance of

participants and staff and providing them with feedback about their personal growth. This evaluation/feedback system is utilized in two different ways.

The first way in which the B-PCDC utilizes the evaluation/feedback system is the usual one of assuring that actual practice is consistent with intended practice. For example, the curriculum is designed to help mothers learn to communicate with their children more extensively, in more desirable ways, and process measures indicate whether or not this is actually happening. Rating sheets, which are periodically filled out by all program participants and most staff members, indicate whether or not teaching staff is effectively conveying the curriculum, and whether or not mothers' behavior is changing in directions consistent with supposed curriculum content. Used in this way, the evaluation/feedback system provides a basis for making alterations in the program when needed.

The second way in which the evaluation/feedback system is utilized in the B-PCDC stems from the systems model. The feedback aspect of the evaluation/feedback process assures that the evaluation of a participant or a staff member actually circles back to affect her in a positive way. In order to facilitate this, evaluation is defined as describing performance in ways that can help people know how they are progressing toward specific goals so that they can plan next steps. Evaluation is seen as a tool for making helping changes, not for comparing individuals or "grading" them. Following the evaluation sessions, which are held regularly as an integral part of the program, the individual who has been evaluated is given a "Feedback Sheet" on which her progress in different areas is charted. This Feedback

Sheet is discussed with her at length, to assure that she understands it and has an opportunity to react to it and then the information contained therein is used in deciding on some short-range goals. This "feedback interview" is a warm, supportive, interpersonal experience; in no way is it to be construed as a "day of judgment." For Participating Mothers, this interview is conducted by Model Mother I, who has received special training in interview techniques. The Model Mothers' feedback interviews are with one of the Counselors. The interview also gives the individual who is being evaluated an opportunity to react to and influence many aspects of the B-PCDC experience.

The evaluation/feedback system is an elaborate one requiring many operations on many levels to assure comprehensive coverage of as many aspects of the program as possible. For a schematic representation of who rates whom, see Table 3. Some aspects of

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Insert Table 3 about here

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the system remain to be fully refined and implemented at the B-PCDC, but it is sufficiently developed to be utilized in quality control, and in providing feedback to program participants.

* * *

In presenting the B-PCDC Program we have described the goals, the practice, the documents and the process measures. The practice is the actual procedures used in the day-to-day program operation. The documents are the various guides and written materials used in the practice. And, the process measures are the methods for controlling the quality of the practices.

Table 3

Who is Rated by Whom?

Program Participants and Staff \ Rated By:	PM & SPM	MMI	MMII	Teachers, Nurse	Supervisor
Participating Mothers (including SPMS)		X	X	X	
Model Mother I	X		X	X	X
Model Mother II	X	X	X	X	X
Teachers, * Nurse	X	X	X		
Supervisor *	X	X	X		

* Not implemented as of September, 1976.

The earlier presentation of the Model and this presentation of the Program summarize the accomplishments at the B-PCDC in meeting the first two requirements of the research and development strategy of the national project. The summary of Program effects presented in the following pages meets the third requirement of the strategy for systematic evaluation, and also meets the second objective's requirement of demonstrating that low-income mothers can become more powerful developmental agents.